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INTERNATIONAL SYMPOSIUM ON ORGANO SILICON CHEMISTRY
(6TH) HELD IN ST LOUIS. (U) WASHINGTON UNIV ST LOUIS MO
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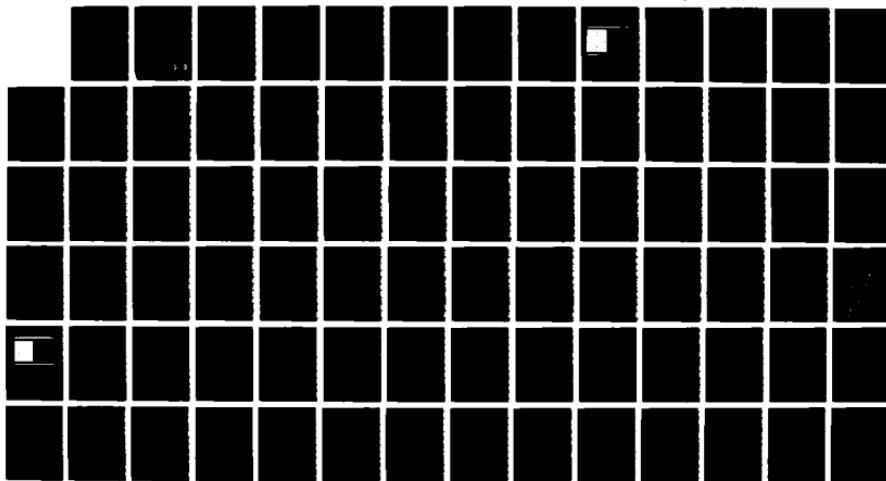
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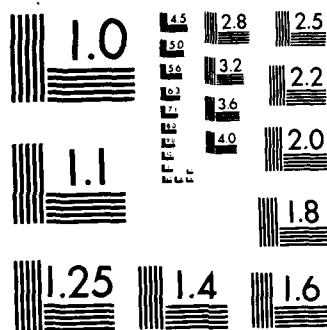
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IT DOCUMENTATION PAGE

1b. RESTRICTIVE MARKINGS

3. DISTRIBUTION/AVAILABILITY OF REPORT

Approved for public release;
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5. MONITORING ORGANIZATION REPORT NUMBER(S)

AFOSR-TR- 88-0678

7a. NAME OF MONITORING ORGANIZATION

AFOSR/NC

7b. ADDRESS (City, State, and ZIP Code)

Building 410
Bolling AFB, DC 20332-6448

9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER

AFOSR-87-0008

10. SOURCE OF FUNDING NUMBERS

PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT ACCESSION NO.
61102F	2303	B2	

11. TITLE (Include Security Classification)

Eighth International Symposium on Organosilicon

12. PERSONAL AUTHOR(S)

Peter P. Gasper, Eugene R. Corey, and Joyce Y. Corey

13a. TYPE OF REPORT FINAL	13b. TIME COVERED FROM 86/10/15 TO 87/10/1	14. DATE OF REPORT (Year, Month, Day) May 13, 1988	15. PAGE COUNT 74
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16. SUPPLEMENTARY NOTATION

17. COSATI CODES

FIELD	GROUP	SUB-GROUP

18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

The Eighth International Symposium on Organosilicon Chemistry was held June 7 to 12 in Saint Louis, Missouri on the campus of Washington University. All areas of current interest in silicon chemistry were covered in the presentations of three plenary and 49 invited lecturers, supplemented by 110 poster presentations. Over 400 Scientists from 20 countries participated in the meeting.

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20. DISTRIBUTION/AVAILABILITY OF ABSTRACT

 UNCLASSIFIED/UNLIMITED SAME AS RPT

21. ABSTRACT SECURITY CLASSIFICATION

Unclassified

22a. NAME OF RESPONSIBLE INDIVIDUAL

Dr. Anthony J. Matuszko

22b. TELEPHONE (Include Area Code)

(202) 767-4963

22c. OFFICE SYMBOL

NC

AFOSR-TR- 88-0678

Final Report

Air Force Office of Scientific Research Grant No. AFOSR-87-0008

VIII International Symposium on Organosilicon Chemistry

Submitted by the Cochairs of the Conference

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Abstract

The Eighth International Symposium on Organosilicon Chemistry was held June 7 to 12 in Saint Louis, Missouri on the campus of Washington University. All areas of current interest in silicon chemistry were covered in the presentations of three plenary and 49 invited lecturers, supplemented by 110 poster presentations. Over 400 scientists from 20 countries participated in the meeting.

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Date: 6/29/88
Ref ID: AF88-12
Dir: AFSC
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88 6 29 112

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The Eighth International Symposium on Organosilicon Chemistry was held on the campus of Washington University, St. Louis, MO, June 7 to 12, 1987. Over 400 participants from 20 countries attended the conference, which was held under the sponsorship of the International Union of Pure and Applied Chemistry. A goal of the symposium organizers was broad coverage of all areas of current interest in the whole field of silicon chemistry. This was achieved in the presentations of three plenary and 49 invited lecturers, supplemented by 110 poster presentations. Of the 52 principal speakers, 49 contributed written versions of their talks as chapters in the symposium volume (565 pp) entitled Silicon Chemistry, published by Ellis Horwood, Ltd., Chichester, in February 1988, under the editorship of the symposium cochairs.

After the Monday morning session in which the three plenary lecturers L.A. Paquette, H. Sakurai, and D.R. Weyenberg spoke, there were three parallel sessions of oral presentations. The major subdivisions in which the oral and poster presentations were organized were:

- Silicon-Assisted Organic Synthesis;
 - Organic Chemistry of Silicon;
 - Silicon in Living Systems;
 - Physical Chemistry, Theoretical Studies, Spectroscopy;
 - Silicon Reactive Intermediates;
 - Silicon-Silicon Chemistry;
 - Silicon-Oxygen Polymers and Materials;
 - Inorganic Chemistry of Silicon; and
 - Silicon in Solid State Technology. (A.W.)

The names of the invited lecturers and the titles of the sessions they led are given below. Among the innovations of the conference was the incorporation of the poster presentations in the sessions of oral presentations. This was done by offering poster presenters the opportunity to give a five-minute oral summary of their work with a maximum of two slides. These poster summaries were included in the appropriate sessions for the subject matter presented whenever possible.

Another novel feature of the symposium was the competitive award of 25 Symposium Fellowships of \$250 each to outstanding young scientists in recognition of their research accomplishments and their promise for future achievements. The Organizing Committee was happy to welcome this next generation of leaders in the field of silicon chemistry and wish the number of awards could have been greater. The 25 Symposium Fellows represented 15 countries, and were selected from a group of ca. 75 applicants. The Fellows were all young faculty or research institute members in the first few years of their careers, or postdoctorals about to begin their independent research careers. A special reception brought together these young stars of the future with the dozen winners of the Frederic Stanley Kipping Award in Organosilicon Chemistry who participated in the symposium.

Silicon chemistry is unusual in that both the basic science and its technological applications are developing with dramatic rapidity. Thus meetings like this one are not social occasions but vital communication links. A feeling of excitement about the field, both its present and future, permeated the meeting, and it seemed to be quite successful.

Attached to this report are copies of the Symposium Program and the List of participants.

PLENARY LECTURES

Organic Synthesis

L. A. Paquette, Ohio State University, USA

Reactive Intermediates

H. Sakurai, Tohoku University, Japan

Silicon-Oxygen Polymers and Materials

D. R. Weyenberg, Dow Corning Corporation, USA

INVITED LECTURERS AND SESSION TITLES: SESSION A

SILICON-ASSISTED ORGANIC SYNTHESIS

Silicon Protecting Groups

W. Adam, University of Würzburg, FRG

Silyl Enol Ether Chemistry

S. Danishefsky, Yale University, USA

Silicon-Mediated or Group Transfer Polymerization

O.W. Webster, The DuPont Company, USA

Other Aspects of Silicon Assisted Synthesis

T.H. Chan, McGill University, Canada

E.W. Colvin, University of Glasgow, Great Britain

I. Kuwajima, Tokyo Institute of Technology, Japan

P.D. Magnus, Indiana University, USA

ORGANIC CHEMISTRY OF SILICON

Carbofunctional Organosilicon Compounds

P.F. Hudrik, Howard University, USA

J. Chen, Shandong University, China

New Developments in the Formation of Silicon-Carbon Bonds - Improvements on, and Alternatives to Hydrosilylation

J.L. Speier, Dow Corning Corporation, USA

New Approaches to Inexpensive Organosilicon Compounds

B. Kanner, Union Carbide Corporation, USA

SILICON IN LIVING SYSTEMS

Bioorganosilicon Chemistry

S. Barcza, Sandoz, Inc., USA

M.G. Voronkov, Siberian Division of the Academy of Sciences, USSR

Health and Environmental Aspects of Organosilicon Materials

R.R. LeVier, Dow Corning Corporation, USA

PHYSICAL CHEMISTRY, THEORETICAL STUDIES AND SPECTROSCOPY

Stereochemical Studies and Molecular Mechanics Calculations

F. Cartledge, Louisiana State University, USA

Surface Chemistry

M.L. Hair, Xerox Research Center of Canada

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INVITED LECTURERS AND SESSION TITLES: SESSION B

SILICON REACTIVE INTERMEDIATES

Silylenes

I.M.T. Davidson, University of Leicester, Great Britain

Silyl Radicals, Anions and Cations

J.B. Lambert, Northwestern University, USA

Silenes

M. Ishikawa, Kyoto University, Japan

Silicon-Heteroatom Multiple Bonds

T.J. Barton, Iowa State University, USA

V.N. Khabashesku, Institute of Organic Chemistry, Academy of Sciences, USSR

Hypervalent Silicon Compounds

R.J.P. Corriu, University of Science & Technology, Languedoc, France

SILICON-SILICON CHEMISTRY

Polysilanes

E. Hengge, Technical University of Graz, Austria

Strained Rings

Y. Nagai, Gunma University, Japan

Disilenes and Disilynes

S. Masamune, Massachusetts Institute of Technology, USA

R. West, University of Wisconsin, USA

SILICON-OXYGEN POLYMERS AND MATERIALS

Polysiloxanes, Silicones and Organosilicon Elastomers

J. Chojnowski, Polish Academy of Sciences, Lodz, Poland

Silicon Adhesives

H. Ishida, Case Western Reserve University, USA

Silicon-Containing Coatings and Encapsulants

J.E. McGrath, Virginia Polytechnic Institute & State University, USA

Silicon-Supported Catalysts and Silicone Coupling Agents

B. Arkles, Petrarch Systems, USA

Silicic Acids, Clathrasiles and Zeolites

F. Liebau, University of Kiel, FRG

PHYSICAL CHEMISTRY, THEORETICAL STUDIES AND SPECTROSCOPY

Decomposition Studies

L.E. Gusein'nikov, Institute of Petrochemical Synthesis, Moscow, USSR

INVITED LECTURERS AND SESSION TITLES: SESSION C

INORGANIC CHEMISTRY OF SILICON

Silicon Transition Metal Chemistry
W. Malisch, University of Würzburg, FRG

Silicon-Main Group Chemistry
U. Klingebiel, Göttingen University, FRG

Catalytic Transformations of Organosilicon Compounds
S. Murai, Osaka University, Japan

Silicides and Zintl Compounds
B.J. Aylett, Queen Mary College, University of London, Great Britain

SILICON IN SOLID STATE TECHNOLOGY

Chemical Vapor Deposition of Silicon and Silicon Compounds
B.A. Scott, IBM Corporation, USA

Photoresists Containing Silicon
R.D. Miller, IBM Research Laboratories, USA

Plasma Etching of Silicon and Silicon Oxides
D.L. Flamm, Bell Laboratories, USA

Polycrystalline and Amorphous Silicon
P. Ho, Sandia National Laboratories, USA

Preceramics and Ceramics
D. Seyferth, Massachusetts Institute of Technology, USA

PHYSICAL CHEMISTRY, THEORETICAL STUDIES AND SPECTROSCOPY

Kinetic and Mechanistic Studies
M.A. Ring, San Diego State University, USA

Thermochemistry of Silicon Compounds and Reactions
R. Walsh, University of Reading, Great Britain
J.M. Jasinski, IBM Corporation, USA

Quantum Mechanical Calculations of Structure and Reaction Paths
M.S. Gordon, North Dakota State University, USA

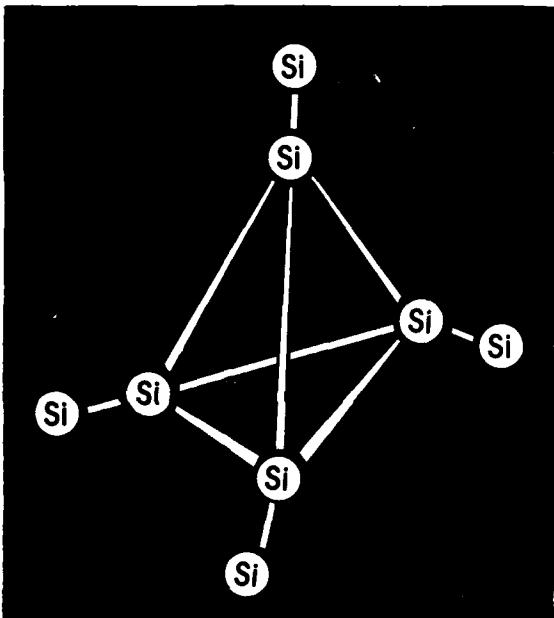
Physical Characterization of Silicon Compounds and Materials
J. Michl, University of Texas, USA

Photochemistry, Radiation Chemistry and Hot Atom Chemistry of Silicon Compounds
O.P. Strausz, University of Alberta, Canada

Mass Spectroscopy, Flowing Afterglow and Ion-Molecule Reaction Studies
F.W. Lampe, Pennsylvania State University, USA

²⁹Si NMR Spectroscopy
J. Schraml, Czechoslovak Academy of Sciences, Prague, Czechoslovakia

AFOSR-TR-88-0618



EIGHTH INTERNATIONAL SYMPOSIUM ON ORGANOSILICON CHEMISTRY

June 7-12, 1987
St. Louis, Missouri USA

PROGRAM

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFSC)
NOTICE OF TRANSMITTAL TO DTIC

This technical report has been reviewed and is
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MATTHEW J. KERPER
Chief, Technical Information Division

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The Organizing Committee of the Eighth International Symposium on Organosilicon Chemistry wishes to gratefully acknowledge the financial support received by the Symposium from the following organizations. Without this assistance and encouragement the Symposium would not have been possible.

Anheuser-Busch Companies, Inc.
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U.S. Air Force Office of Scientific Research
U.S. Army Research Office
University of Missouri-St. Louis
Washington University

The Eighth International Symposium on Organosilicon Chemistry is being held under the sponsorship of the International Union of Pure and Applied Chemistry.

The Organizing Committee wishes to pay special tribute to our conference co-ordinator, Mrs. Jerri Skeeters and to our artist, Debra Larson. The idea for the conference poster came from Dr. Sandor Barcza.

EIGHTH INTERNATIONAL SYMPOSIUM ON ORGANOSILICON CHEMISTRY

Technical Program Changes, Corrections, and Additions

Change of Day and Time

Page

38 Paper B49 has been rescheduled for presentation on Thursday Afternoon at 5:10 in Session B, page 36 (Zygmunt Lasocki and Małgorzata Witekowa)

Correction of Time

Page

38 Paper B51 (Barry Arkles) is scheduled at 11:30 on Friday (not at 10:30 on Friday)

Papers that will not be Presented

Page

18 Poster Paper PAB31 will not be presented (Jeung-Ho So and Philip Boudjouk)

36 There will not be a 5-Minute Poster Summary for *PCD20 at 5:10 on Thursday Afternoon in Session B (R. Tacke, C. Strohmann, H. Zilch, G. Lambrecht, U. Moser and E. Mutschler)

37 Paper A48 scheduled for presentation at 11:30 on Friday will not be presented. (R. Tacke, K. Fritsche, H. Hengelsberg, A. Tafel, F. Wittke, H. Zilch, C. Syldatk, H. Andree, A. Stoffregen and F. Wagner)

Change of Presiding Officer

Page

37 R. Tacke will not preside at the Session A (10:50) Friday Morning; a replacement person will be announced later.

Additional Papers

Page

Two additional oral presentations have been scheduled in Session B:

38 10:50 Friday Morning, P. Boudjouk and U. Samaraweera, "Convenient Synthesis of Di-t-Butylsilylene" (replaces rescheduled paper B49)

38 12:10 Friday Morning, R. Damrauer, "Studies of Gas Phase Species with Silicon Multiple Bonds"

III

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Eugene R. Corey

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SYMPOSIUM FELLOWS

The following young scientists have been awarded Symposium Fellowships by the Organizing Committee in recognition of their research accomplishments and their future promise. We are happy to welcome this next generation of leaders in the field to the Symposium and wish only that the number of awards could have been greater. There were many more qualified applicants than could be given these fellowships.

S. Abu-Orabi, Jordan
N. Auner, FRG
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L. Wilczek, USA
C. Xiao, China

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DATE AND LOCATION:

The Eighth International Symposium on Organosilicon Chemistry is being held from Sunday, June 7 through Friday, June 12, 1987 in St. Louis, Missouri USA. All scientific sessions of the Symposium are being held on the campus of Washington University.

The opening session will begin at 8:30 AM on Monday, June 8 in Edison Theater (Mallinckrodt Center). The scientific program will conclude at 3:45 PM on Friday, June 12.

REGISTRATION:

The Registration Desk of the Symposium will be open from 1:00 to 5:30 PM in the main lobby of Wohl Center (Dormitory Area) on Sunday, June 7th. It will reopen at 7:30 AM Monday, June 8th at the main desk in Mallinckrodt Center. Please note that the location of the registration desk changes Monday morning. Registration will be available throughout the entire week of the Symposium at the main desk in Mallinckrodt Center.

Participants will find in their registration packets a badge (which should be worn during all Symposium events, especially off-campus social events), a detailed program, a book of abstracts, and a list of participants. Also enclosed will be tickets for social events chosen, and other materials and information related to the Symposium and St. Louis, including a coupon for receipt of one ceramic mug (compliments of Dynamit Nobel/Petrarch Systems) and one Symposium poster.

Officials and guides for the Symposium are identified by a large blue dot on their badges.

SYMPOSIUM SCHEDULE:

Sunday, June 7	1:00PM - 5:30PM	Registration Washington University - Wohl Center)
	6:00PM - 9:00PM	Welcoming Reception Missouri Botanical Garden (by ticket only)
Monday	7:30 AM	Registration (Mallinckrodt Center - Main Desk)
	8:30 AM	Opening Remarks (Mallinckrodt Center - Edison Theater)
	8:45AM - 12:30PM	Plenary Lectures (Mallinckrodt Center - Edison Theater)
	2:00PM - 5:30PM	Invited Lectures, Oral Presentations
Tuesday June 9	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
	2:00PM - 5:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
Wednesday June 10	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations
	Afternoon	Excursions (1:30PM - 5:30PM)
	7:00PM	Symposium Banquet (Omni Hotel, Union Station) By ticket only!
Thursday June 11	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
	2:00PM - 5:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
Friday June 12	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations
	2:00PM - 3:20PM	Invited Lectures, Oral Presentations
	3:45PM	Closing Remarks (Bears Den Patio - Wohl Center)
	4:00PM - 6:00PM	Farewell Party (Bears Den Patio - Wohl Center)

List of Invited Speakers

Plenary Lecturers

	Abstract Number	General Topic	Time #
L. A. Paquette Hideki Sakurai	PL1 PL2	Organic Synthesis Silicon Reactive Inter- mediates	8:45 M 10:20 M
Donald R. Weyenberg	PL3	Silicon-Oxygen Polymers and Materials	11:25 M

Invited Lecturers

Session A

Waldemar Adam	A1	Silicon Protecting Groups	2:00 M
T. H. Chan	A4	Aspects of Organic Synthesis	3:50 M
P. D. Magnus	A8	Aspects of Organic Synthesis	8:30 T
Ernest W. Colvin	A11	Aspects of Organic Synthesis	9:50 T
S. Danishefsky	A14	Silyl Enol Ether Chemistry	2:00 T
Owen W. Webster	A17	Silicon-Mediated or Group Transfer Polymerization	3:50 T
Asao Kuwajima	A19	Aspects of Organic Synthesis	8:30 W
M. L. Hair	A24	Surface Chemistry	10:50 W
Frank K. Cartledge	A25	Stereochemical Studies and Molecular Mechanics Calculations	11:30 W
Paul F. Hudrlik	A27	Carbofunctional Organo- silicon Compounds	8:30 Th
Chen Jianhua	A32	Organic Chemistry of Silicon	10:50 Th
John L. Speier	A38	Formation of Silicon-Carbon	3:20 Th
B. Kanner	A42	New Approaches to Organo- silicon Compounds	8:30 F
Sandor Barcza	A47	Bioorganosilicon Compounds	10:50 F
M. G. Voronkov	A49	Bioorganosilicon Compounds	11:50 F
Robert R. LeVier	A50	Environmental Aspects of Organosilicon Materials	2:00 F

Session B

Iain M. T. Davidson	B3	Silylenes	2:40 M
Joseph B. Lambert	B6	Silyl Cations	4:30 M
Mitsuo Ishikawa	B10	Silenes	9:10 T
Robert J. P. Corriu	B18	Hypervalent Species of Silicon	2:40 T

* Abstract Numbers of Invited Lectures are emboldened in the program.

M = Monday, T = Tuesday, W = Wednesday, Th = Thursday and F = Friday

V. N. Khabashesku	B22	Silicon-Heteroatom Multiple Bonds	4:50	T
Thomas J. Barton	B24	Silicon-Heteroatom Multiple Bonds	8:50	W
Satoru Masamune	B25	Silicon-Silicon Ring Systems	9:30	W
Yoichiro Nagai	B27	Strained Rings	10:50	W
Robert West	B29	Disilenes	11:50	W
Edwin Henge	B32	Polysilanes	9:10	Th
James E. McGrath	B41	Organosiloxane Copolymers	2:40	Th
Friedrich Liebau	B42	Tectosilicates	3:50	Th
Julian Chojnowski	B46	Siloxane Polymers	9:10	F
Barry Arkles	B51	Silicon Polymer Networks	10:30	F
Hatsuo Ishida	B52	Silicon-Oxygen Polymers	2:00	F
Leonid E. Gusel'nikov	B53	Decomposition Studies	2:40	F

Session C

W. Malisch	C1	Silicon-Transition Metal Chemistry	2:00	M
Uwe Klingebiel	C8	Silicon-Main Group Chemistry	8:30	T
Shinji Murai	C12	Catalytic Transformations	10:30	T
Bernard J. Aylett	C16	Silicides and Zintl Phases	2:00	T
B. A. Scott	C19	Vapor Deposition of Silicon	3:50	T
R. D. Miller	C22	Application of Polysilanes	4:50	T
Pauline Ho	C25	Mechanisms of Silane Deposition	9:50	W
D. L. Flamm	C28	Plasma Etching	11:30	W
M. A. Ring	C30	Kinetic and Mechanistic Studies	8:30	Th
Josef Michl	C33	Polysilane Photochemistry and Desorption Mass Spectrometry	9:50	Th
J. M. Jasinski	C34	Kinetics of Silylene Decomposition	10:50	Th
Robin Walsh	C37	Thermochemistry of Silylenes	2:00	Th
Mark S. Gordon	C42	Theoretical Studies of Organosilicon Chemistry	4:30	Th
Jan Schraml	C43	²⁹ Si NMR Spectroscopy	8:30	F
Otto P. Strausz	C48	Spectroscopy and Photochemistry	10:50	F
F. W. Lampe	C50	Ion-Molecule Reactions and Mass Spectrometry	11:50	F

Condensed Technical Program
General Topics with Abstract Numbers

Session A

Silicon-Assisted Organic Synthesis Silicon-Protecting Groups Abstract Numbers A1-A3	Analytical Chemistry Bonded Phases and Other Silicon Compounds in Analytical Chemistry Abstract Numbers A43-A46
Other Aspects of Silicon-Assisted Synthesis Abstract Numbers A4-A13, A16, A19-A23 5-Minute Poster Summaries *PAB3-*PAB5, *PAB7, *PAB9 Poster Papers *PAB3-*PAB9	Silicon in Living Systems Bioorganosilicon Chemistry Abstract Numbers A47-A49 Poster Papers PCD17-PCD21
Silyl Enol Ether Chemistry Abstract Numbers A14-A15 Poster Papers PAB1-PAB2	Health and Environmental Aspects of Organosilicon Materials Abstract Numbers A50-A51
Silicon-Mediated Group Transfer Polymerization Abstract Number A17	Physical Chemistry, Theoretical Studies, and Spectroscopy Stereochemical Studies and Molecular Mechanics Calculations Abstract Numbers A25-A26 5-Minute Poster Summaries *PAB16, *PAB18, *PAB20 Poster Papers *PAB16-*PAB20
Silicon Template Synthesis Abstract Number A18	Surface Chemistry Abstract Number A24 Poster Paper PAB45
Organic Chemistry of Silicon Carbofunctional Organosilicon Compounds Abstract Numbers A27-A37 5-Minute Poster Summaries *PCD5, *PCD7 Poster Papers PCD1-PCD11	Silicon in Solid State Technology Photoresists Containing Silicon 5-Minute Poster Summaries *PAB43-*PAB44 Poster Papers *PAB43-*PAB44
New Developments in the Formation of Silicon-Carbon Bonds Abstract Numbers A38-A41 5-Minute Poster Summaries *PCD12, *PCD14, *PCD16 Poster Papers *PCD12-*PCD16	
New Approaches to Organosilicon Compounds Abstract Number A42 Poster Paper PCD66	

Condensed Technical Program
General Topics with Abstract Numbers

Session B

Silicon Reactive Intermediates Silylenes Abstract Numbers B1-B4 5-Minute Poster Summaries *PAB10, *PAB12, *PAB14-*PAB15 Poster papers *PAB10-*PAB15	Silicon-Oxygen Polymers and Materials Silicon Containing Coatings and Encapsulants Abstract Number B41
Silyl Radicals Anion and Cations Abstract Numbers B5-B9 Poster Papers PAB21-PAB23	Silicic Acids, Clathrasiles and Zeolites Abstract Numbers B42-B43
Silenes Abstract Numbers B10-B15	Polysiloxanes, Silicones and Organosilicon Elastomers Abstract Numbers B44-B50 5-Minute Poster Summaries *PCD27-*PCD28, *PCD34-*PCD36, *PCD38, *PCD41 Poster Papers *PCD27-PCD42
Hypervalent Silicon Compounds Abstract Numbers B16-B21 5-Minute Poster Summaries *PAB29-*PAB30 Poster Papers PAB25-*PAB30	Silicon Supported Catalysts and Silicon Coupling Agents Abstract Number B51 Poster Paper PCD45
Silicon Heteroatom Multiple Bonds Abstract Numbers B22-B24 Poster Paper PAB24	Silicon Adhesives Abstract Number B52 5-Minute Poster Summary *PCD43 Poster Papers *PCD43-PCD44
Silicon-Silicon Chemistry Strained Rings Abstract Numbers B25-B27 Poster Paper PAB31	Silica and Silicate Glasses Including Sol Gels 5-Minute Poster Summary *PCD46 Poster Paper *PCD46
Disilenes and Disilynes Abstract Numbers B28-B29 Poster Papers PAB32-PAB33	Silicon in Living Systems Bioorganosilicon Chemistry 5-Minute Poster Summary *PCD20
Polysilanes Abstract Numbers B30-B40 5-Minute Poster Summaries *PCD23-*PCD25 Poster Papers PCD22-PCD26	Physical Chemistry, Theoretical Studies and Spectroscopy Decomposition Studies Abstract Number B53 Poster Paper PCD65

Condensed Technical Program
General Topics with Abstract Numbers

Session C

Inorganic Chemistry of Silicon Silicon-Transition Metal Chemistry Abstract Numbers C1-C7, 5-Minute Poster Summaries *PAB34-*PAB35, *C4 Poster Papers *PAB34-PAB37, *C4	Physical Chemistry, Theoretical Studies and Spectroscopy Kinetic and Mechanistic Studies Abstract Numbers C30-C32, C34-C35 5-Minute Poster Summaries *PCD47, *PCD48 Poster Papers *PCD47-PCD50
Silicon-Main Group Chemistry Abstract Numbers C8-C11 5-Minute Poster Summary *PAB39 Poster Paper PAB38-PAB41	Physical Characterization of Silicon Compounds and Materials Abstract Number C33, C36 5-Minute Poster Summary *PCD58 Poster Papers PCD57-*PCD58
Catalytic Transformations of Organo- silicon Compounds Abstract Numbers C12-C15	Thermochemistry of Silicon Compounds and Reactions Abstract Numbers C37-C39 Poster Paper PCD51
Silicides and Zintl Compounds Abstract Number C16	Quantum Mechanical Calculations of Structure and Reaction Paths Abstract Numbers C40-C42 Poster Summary *PCD54 Poster Papers PCD52-PCD56
Silicon in Solid State Technology Chemical Vapor Deposition of Silicon and Silicon Compounds Abstract Numbers C17-C20 Poster Paper PAB42	²⁹ Si NMR Spectroscopy Abstract Numbers C43-C47 5-Minute Poster Summaries *PCD63-*PCD64 Poster Papers *PCD63-*PCD64
Preceramics and Ceramics Abstract Number C21	Photochemistry, Radiation Chemistry and Hot Atom Chemistry of Silicon Compounds Abstract Numbers C48-C49 Poster Papers PCD59-PCD61
Photoresists Containing Silicon Abstract Numbers C22-C24	Mass Spectroscopy, Flowing Afterglow and Ion-Molecule Reaction Studies Abstract Number C50 Poster Paper PCD62
Polycrystalline and Amorphous Silicon Abstract Numbers C25-C27	
Plasma Etching of Silicon Silicon Oxides Abstract Numbers C28-C29	

PRESENTATION OF PAPERS

There will be three parallel session for oral presentations beginning Monday afternoon in separate locations (no more than a five minute walk from each other: Session A: Rebstock Hall (Room 215), Session B: Simon Hall (Lower Level) and Session C: Brown Hall (Room 100). See map campus map on back cover.

Oral Presentation of Invited and Contributed Papers:

The time allowed for an oral presentation is 15 minutes, followed by a 5 minute discussion period. Slides must be presented to the projectionist at least one half hour before scheduled time of presentation. Each session room will be provided with only one slide projector. Slides should be properly numbered and positioned. Time allotments will be strictly enforced. Please check the official program for the exact time and location of your presentation. Overhead projectors will be available.

5 Minute Oral Summaries of Poster Presentations:

Contributors who are giving 5 minute oral summaries are restricted to no more than 2 slides, which must be given to projectionists no later than one half hour prior to presentation. The five minute time limit will be strictly enforced for all! Please check the official program for the exact time and location of your five minute oral summary.

Poster Sessions:

Poster sessions are being held in Mallinckrodt Center, Room 208. Posters in Session PAB will be on display Tuesday and Wednesday, and posters in Session PCD will be on display Thursday and Friday. A small card will be positioned on each poster stand on which the authors are to note the times that at least one author will be present to answer questions concerning his or her poster. Posters must be in place no later than 8:00 AM on the first day of presentation. They must be removed no earlier than 5:30 PM on last day of presentation, but no later than 8:00 AM on Thursday for Session PAB and no later than 6:30 PM on Friday for Session PCD. Contributors must provide all necessary materials for their posters and must be present during the time noted on their poster stand. Please check the official program for Session identification of your poster presentation.

OFFICIAL LANGUAGE

The official language of the Symposium is English. It is required that all abstracts and papers be presented in English. Simultaneous translation facilities will not be available.

INDUSTRIAL EXHIBITS

There are exhibits, displays, and literature available from the industrial segment of the organosilicon chemistry community, located on the lower level of Mallinckrodt Center. Information, leaflets and forms are also available from publishers.

SYMPOSIUM VOLUME

The plenary and invited lectures that are being presented at the Symposium are being published in book form. Subscription forms that offer a significant discount for the Symposium Volume are available at the Symposium Information Desk in Mallinckrodt Center.

SYMPOSIUM PHOTOS

A photographer will be taking pictures Sunday evening during the reception at Missouri Botanical Gardens and Monday throughout the day. Proofs can be seen Wednesday in the Industrial Exhibit area in Mallinckrodt Center and those wishing to purchase copies can place orders with the photographer.

TRAVEL AGENT

Apex Travel, a full service travel agency, is located in Mallinckrodt Center (3rd floor). If you have any questions and/or problems please contact them at phone ext. 4531.

POSTAL FACILITIES AND MESSAGE CENTER

A full service post-office which is open Monday through Friday from 10:30AM to 4:30PM is located on campus (see campus map on back cover). Participants should arrange for any mail they may receive during the Symposium to be addressed to them:

c/o Eighth International Symposium on Organosilicon Chemistry
Washington University
Campus Box 1150
St. Louis, Missouri 63130 USA

Any mail received may be picked up at the main desk in Mallinckrodt Center during the hours 10:00 AM and 4:30 PM. Messages will be posted on a stand near the main desk. Telephone messages can be directed to the Symposium telephone number (314-889-4763).

Stamp Collectors: There is a Philatelic Store located in Clayton at 7750 Maryland Avenue which is open Monday-Friday, 8:30 AM to 5:00 PM with stamps, stamp sets and books for sale.

BANKING FACILITIES

A branch of Boatmen's National Bank is located in Mallinckrodt Center (3rd floor). Traveler's cheques may be cashed at the bank during normal working hours which are 9:00AM to 4:30PM, Monday through Friday. The bank will convert most currencies into American dollars.

HEALTH SERVICE

First aid is available at the Health Service located in Umrrath Hall (campus telephone ext. 6666) on a limited hour basis (8:30 AM to 3:00 PM). Emergency medical service is available at all hours at Barnes Hospital by calling Campus Security (campus telephone ext. 5555).

SHUTTLE SERVICE AND OTHER TRANSPORTATION DURING SYMPOSIUM

Shuttle bus service will be available from all three hotels during the Symposium. The schedule is as follows:

Cheshire Inn: Morning: 7:50 and 8:15 AM
Afternoon: 5:40 and 6:00 PM

Clayton Inn: Morning: 7:45 and 8:00
Noon Break: 12:40 (to hotel) 1:40 (return to campus)
Afternoon: 5:40 and 5:50 PM

Forest Park: The Washington University shuttle bus will run by the Forest Park Hotel Monday through Friday during the Symposium. You can catch the shuttle in front of the Forest Park Hotel at 7:40 and 8:00 AM to arrive on campus before 8:30 AM. Shuttle will stop again at 1:20 and 1:40 PM for those who return to hotel at lunch time. The shuttle will drop you in front of Mallinckrodt Center. Return shuttle can be boarded in front of Brookings Hall throughout the day (runs every twenty minutes between 7:40 AM and 6:00 PM) or in front of Mallinckrodt Center at 12:40 and 1:00 PM and 5:40 trip to hotel. If pickup at the hotel is desired at any other time (between 7:40 AM and 6:00 PM) please call 889-5629 and request a stop.

Transportation for the Welcoming Reception will be provided. All those attending the reception are asked to be at Wohl Center between 5:00 and 5:30 PM.

Transportation for the Symposium banquet (for which preregistration is required) will be provided. Buses will depart from Mallinckrodt Center and Wohl Center, but participants will be returned to individual hotels and Wohl Center.

Wednesday afternoon tours will leave from Mallinckrodt Center, but will return you to either your hotel or Wohl Center upon your request. Tuesday and Thursday daytime tours will depart from your hotel/campus housing and return you to same place.

Included in your registration packet are bus schedules from Bi-State Transit (public bus) giving rates, routes, etc. for public transportation.

Taxicab service in the St. Louis area is rapid and reasonably priced. Typical "long rides" are Washington University campus to riverfront, 15 minutes, \$10.00; Forest Park Hotel to the airport, 20 minutes, \$15.00. Call County Cab (991-5300) or Laclede Cab (652-3455). Limousine service to the airport is available from all hotels and the Washington University dormitory area, price - \$ 6.00. Call Limousine Service (429-4940).

SOCIAL EVENTS

Symposium Badges should be worn throughout entire Symposium and are an absolute must during all technical sessions, social events and tours.

Welcoming Reception (June 7):

A Welcoming Reception is being held Sunday evening, June 7, from 6:00 PM to 9:00 PM at the Missouri Botanical Garden. Admission to the Reception is free, but will be by ticket only. Dress will be casual. Tickets will be provided to all Active and Associate Participants when they register at Wohl Center at Washington University.

Evening Social Hours (June 8, 9, 11):

Very informal social gatherings are planned Monday, Tuesday and Thursday evenings in both The Bears Den and Freedman Lounge, which are located on the ground floor of Wohl Center. Admission by Symposium badge only.

Tickets for the following social events and tours will be distributed in the registration packets to those who ordered them. Additional tickets may be purchased at the Symposium Information Desk on Monday, Tuesday and Wednesday (morning only) where further information is available. All tours will leave from Mallinckrodt Center (except the Tuesday and Thursday daytime tours when participants will be picked up) and will return participants to either campus or hotel.

Sports Night, Monday (June 8):

The baseball Cardinals are not scheduled to play on Monday, June 8th. Therefore, it will be a night at Fairmont Park, where you can pick a favorite horse at the thoroughbred races.

Time: 6:00PM - 11:00PM

Opera Night, Tuesday (June 9):

A summer night at the opera at the Loretto-Hilton Theatre will include an outstanding opera production, plus a pre-performance outdoor picnic supper. The opera scheduled is CARMEN.

Time: 6:00PM - 11:00PM

Symposium Banquet, Wednesday (June 10):

The Symposium Banquet will be held at the recently refurbished Omni Hotel in Union Station. Dress will be informal. Tickets will be distributed at the time of registration to those who have preregistered. Tickets are available for purchase until 11:30 AM, Monday on a first come/first serve basis at the main desk in Mallinckrodt Center. Admission to the banquet will be by ticket only.

Time: 7:00 PM - 11:00 PM

An Evening on the River, Thursday (June 11):

Begin with a tour through historic Laclede's Landing, reminiscent of New Orleans French Quarter. Enjoy a cocktail and hors d'oeuvres in one of the quaint bistros. Then, embark on the President for three hours of moonlight cruising and three decks of riverboat entertainment, dancing and dining. (Price does not include cost of dinner.)

Time: 6:00 PM - 11:30 PM

Wednesday Afternoon Tours (June 10)

Tour 1: Gateway Arch - St. Louis Cathedral - Riverfront

Ride to the top of the 630-foot Gateway Arch (our nation's tallest monument) for a breathtaking 30-mile panoramic view, visit the Museum of Westward Expansion located beneath the Arch, which contains extensive exhibits of the American West. Listen to tales of early St. Louis history as you ride along the Mississippi riverfront and downtown area. Imposing in its grandeur the Cathedral of St. Louis has a large collection of mosaic art.

Time: 1:00 PM - 5:00 PM

Tour 2: Anheuser-Busch Brewery - Union Station - Soulard and Lafayette Square

A complete tour of the world's largest brewery with a stop in the hospitality room for a taste test. See the world famous Clydesdale horses in their circular stable. Next, the St. Louis Union Station, a railroad station, with the largest train shed ever built, transformed into an impressive setting for specialty shops and restaurants. Then, a narrated riding tour through Lafayette Square and the Soulard District with its outdoor public market, unique architecture and historic churches.

Time: 1:00 PM - 5:00 PM

Tour 3: Forest Park Tour

Forest Park - site of the 1904 World's Fair, now a 1400 acre cultural oasis in the middle of the city. Four stops to view: the treasures in the Art Museum, the floral display in the glass-enclosed Jewel Box, the mementos in the Charles Lindbergh Gallery, and the "Star Show" in the new Science Center.

Time: 1:00 PM - 5:00 PM

Tour 4: Winery Tour, Augusta, MO

A scenic ride thru the Missouri countryside to the small village of Augusta near the Missouri River, in an area of Missouri's finest vineyards. Tour the quaint Mount Pleasant Winery, sample the wine, and browse thru the numerous craft, antique and food shops.

Time: 1:00 PM - 5:00 PM

Daytime Tours

City Highlights Tour, Tuesday (June 9):

See a large collection of mosaic art at the St. Louis Cathedral, covering three domes, ceilings, numerous arches and wall panels. View St. Louis from the top of the 630-foot Gateway Arch, the nation's tallest monument. Shop and have lunch on your own in the spectacular Union Station complex, an impressively transformed railroad station. See the world-famous Clydesdales at a short stop at Anheuser-Busch Brewery, the world's largest brewery. (Tour cost does not include the price of lunch.)

Time: 9:00 AM - 3:30 PM

Grant's Farm - Historic St. Charles, Thursday (June 11):

A visit to Grant's Farm, the estate of the Busch family. See the Clydesdales stables, a miniature zoo, the game preserve (with deer, buffalo and other wild game in a natural setting), an amazing bird show, and General Ulysses S. Grant's log cabin. Next, cross the Missouri River to St. Charles, Missouri's first capitol. Plenty of time to browse in this quaint area of brick streets and restored buildings housing many antique, craft and gift shops. Have lunch on your own in one of the picturesque restaurants. (Tour cost does not include the price of lunch.)

Time: 9:00 AM - 1:00 PM

PLEASE REMEMBER TO WEAR YOUR SYMPOSIUM BADGE THROUGHOUT THE WEEK

TO ALL TECHNICAL SESSIONS AND SOCIAL EVENTS

SYMPOSIUM OFFICIALS CAN BE IDENTIFIED BY A LARGE BLUE DOT ON THEIR BADGE

TECHNICAL PROGRAM

Eight International Organosilicon Symposium

June 7 - 12, 1987
St. Louis, Missouri U.S.A.

Technical Sessions

Monday Morning, June 8

Session PL Mallinckrodt Center
 Edison Theater

8:30 Opening Remarks and Welcome
Peter P. Gaspar, Presiding
William H. Danforth, Chancellor, Washington University
Marguerite Ross Barnett, Chancellor, University of Missouri-St. Louis
Josef Michl for the International Union of Pure and Applied Chemistry

Plenary Lecture - Organic Synthesis

8:45 PL1 Stereochemical and Reactivity Patterns in Silyl-Substituted Cycloalkanes and Acyclic Analogues
L. A. Paquette

9:50 **BREAK**

Plenary Lecture - Reactive Intermediates

Joyce Y. Corey, Presiding

10:20 PL2 Reactive Intermediates and Mechanism of Photochemical Reactions of Aryldisilanes. Evidence for the Formation of ($\sigma\pi$) Orthogonal Intramolecular Charge-Transfer (OICT) States
Hideki Sakurai

Plenary Lecture - Silicon-Oxygen Polymers and Materials

Eugene R. Corey, Presiding

11:25 PL3 Silicones - Past, Present, and Future
Donald R. Weyenberg

Monday Afternoon, June 8

Session A Rebstock Hall
 Room 215

Silicon-Assisted Organic Synthesis
Silicon Protecting Groups
Gerald L. Larson, Presiding

2:00 A1 The Utilization of Trialkyl Silyl as Protecting Groups in Ene-Reactions of Singlet Oxygen
Waldemar Adam

2:40 A2 Silylamines in Organic Synthesis: New Access to Functional Pyrroles

Robert J. P. Corriu, Joël J. E. Moreau and Claude Vernhet

3:00 A3 The Silylation of Alcohols with (2,3-Dimethylpropyl)dimethylchlorosilane
Gerald L. Larson and James D. Johnston

3:20 **BREAK**

Other Aspects of Silicon-Assisted Synthesis
Paul F. Hudrlik, Presiding

3:50 A4 Effect of Substituent on Reactions Remote from Silicon - Application in Organic Synthesis
T. H. Chan

4:30 A5 Regioselective Synthesis of 1-Thiohex-2-enopyranosides Using Trimethylsilylthiols
L. V. Dunkerton, N. K. Adair and J. M. Euske

4:50 A6 Synthetic Applications of the Electrophilic Oxsilylation and Hydroxylation with Bis(trimethylsilyl)peroxide
L. Camici, A. Ricci, G. Seconi and M. Taddei

5:10 A7 The Generation and Trapping of Heterocycle Containing Silylene

Shi-Hui Wu, Ge Wu, Nan Jiang, Feng-Gang Tao, Zhi-Sen Lin

5:10 B7 Decomposition Mechanisms of $\text{Si}^n\text{H}_{2n}^+$ ($n = 2-7$) Ions in the Gas Phase

J. R. Diers and D. B. Jacobson

Monday Afternoon, June 8

Session B Simon Hall
Lower Level

Silicon Reactive Intermediates
Silylenes
P. Jutzi, Presiding

2:00 B1 Time Resolved Studies of Dimethylsilylene Reactions in the Gas Phase

J. E. Baggott, M. A. Blitz, H. M. Frey, P. D. Lightfoot and R. Walsh

2:20 B2 Recent Studies of Matrix Isolated Organosilylenes: The First Spectroscopic Observation of a Silylene-Ether Complex

Gregory R. Gillette, George H. Noren and Robert West

2:40 B3 Quantitative Aspects of Silylene Reactions

Iain M. T. Davidson

3:20 B4 Decamethylsilicocene: A Stable Silicon(II) Compound

P. Jutzi, U. Holtmann, D. Kanne and A. Möhrke

3:40 BREAK

Silyl Radicals, Anions and Cations

P. Boudjouk, Presiding

4:10 B5 1,3-Migration of and An-chimeric Assistance by Aryl Groups Within Organosilicon Cations

Paul A. Lickiss

4:30 B6 Silyl Cations in Solution

Joseph B. Lambert, William J. Schulz, Jr., JoAnne A. McConnell and Wojciech Schilf

Monday Afternoon, June 8

Session C Brown Hall
Room 100

Inorganic Chemistry of Silicon
Silicon-Transition Metal
Chemistry
John F. Harrod, Presiding

2:00 C1 Transition-Metal Substituted Silanes: Ligand Exchange at the Silicon and at the Transition Metal

W. Malisch, P. Lorz, W. Seelbach, U. Wachtler and G. Thum

2:40 C2 Coordination Chemistry of Functional η^4 -Diphenylsilacyclopentadiene Complexes: Synthesis and Reactivity of New Carbenes and Hypervalent Species

F. Carré, R. J. P. Corriu, C. Guérin, B. J. L. Henner and W. W. C. Wong Chi Man

3:00 C3 Reactions of Dimethyltitanocene with Trimethoxy- and Diethoxymethyl-Silanes

John F. Harrod, Clare Aitken and Edmond Samuel

Paper C4 has been rescheduled as Poster Paper *C4 and follows Poster Paper PAB37 - Bulky Silyl Ligand Complexes of Tetraacetatodimolybdenum

Vera V. Mainz, Glen C. Otero and Stephanie Bortko

3:20 BREAK

Silicon-Transition Metal Chemistry
T. Don Tilley, Presiding

3:50 C5 Migration with Rearrangement of a Disilylmethyl Group from Fe to the Cyclopentadienyl Group in $(n^5-C_5H_5)Fe(CO)_2CH_2SiMe_2-SiMe_3$

Keith H. Pannell, Steven P. Vincenti, Robert Scott III and Jorge Cervantes

4:10 C6 Preparative Applications of Hydrido Silyl Complexes

Ulrich Schubert, Erika Kunz, Michael Knorr and Johannes Müller

4:30 C7 Approaches to the Synthesis of Transition Metal Silylene Complexes

Dan Straus and T. Don Tilley

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

Poster Session PAB - An asterisk (*) indicates that a 5-minute oral summary of the contribution is scheduled elsewhere in the Tuesday Morning technical program.

Silicon-Assisted Organic Synthesis
Silyl Enol Ether Chemistry

PAB1 The Synthesis and Reactions of Vinyloxysilanes

N. V. Komarov and E. G. Lisovin

PAB2 Synthesis and Reactions of Halogen Containing O-Silylated Enolates

Vasili Shchepin

Other Aspects of Organic Synthesis

*PAB3 Stereospecific Synthesis of New Silylated β -Lactams

Jesus-Maria Aizpurua and Jean-Paul Picard

*PAB4 Condensations of Silyl Ketene Acetals Catalyzed by Mercuric Iodide

Ira B. Dicker

*PAB5 Recent Developments in Cyclopropylsilane Chemistry: Synthesis of Functional Seven Membered Ring Derivatives

Micheline Grignon-Dubois, Mohamed Ahra and Jacques Dunoguès

PAB6 Silyl Esters Based on Diazo-dimedone and Its S-Heteroanalog

N. N. Khimich, N. E. Glushkova, V. A. Nikolaev and I. K. Korobitsyna

*PAB7 Diels-Alder Reactions of 1,4-Bis-Trimethylsiloxy-1,3-Cyclohexadiene

D. E. Lavalla, N. Venkatasubramanian, H. D. Banks and P. Balakrishnan

PAB8 New Catalysts for Asymmetric Hydrosilylation

Edmunds Lukevics, Kira Rubina, Yuri Goldberg and Maria Shymanska

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

*PAB9 Improved Synthesis of Acyl-silanes Enamines
Jean-Paul Picard and Jesus-Maria Aizpurua

Silicon Reactive Intermediates
Silylenes

*PAB10 Synthetic and Mechanistic Aspects of Dimethylsilylene Transfer Reactions in Organo-Transition Metal Chemistry
Donald H. Berry and Qian Jiang

PAB11 Reactions of Dichloro- and Chloromethylchlorosilacycloalkanes with Alkali Metal Vapors. Gas Phase Transformations of Silacycloalkanylidene and Methylenesilacycloalkanes

L. E. Gusel'nikov, E. A. Vonnina, A. B. Kanevskii and Yu. P. Polyakov

*PAB12 Photoreactions of Cyclic Aryldisilanes

Munehiro Yamaguchi, Hisashi Sugiyama, Mitsuo Kira and Hideki Sakurai

PAB13 Reactions of 1,1-Di-t-butyl-2,3-dimethyl Siliranes

Upasiri Samaraweera and Philip Boudjouk

*PAB14 Pyrolysis of Dimethyl(2-methyl-1-propenyl)(vinyl)silene: Proof of the Homo-ene Reaction Mechanism

Deqing Lei and Peter P. Gaspar

*PAB15 Synthesis of Sterically Congested Silylene Precursors and the Quest for Triplet Silylenes

Manchao Xiao and Peter P. Gaspar

Physical Chemistry, Theoretical Studies and Spectroscopy
Stereochemical Studies and Molecular Mechanics Calculations

*PAB16 Silanones, Silylenes, Disiloxanes: Theoretical Studies of Structure and Rearrangements
Robert J. Brenstein and Steve Scheiner

PAB17 Silyl Anions: Inversion, Electronic and Geometric Structure
James R. Damewood, Jr. and Christopher Hadad

*PAB18 Molecular Mechanics Parameters for Organosilicon Compounds Calculated from Ab Initio Computations

Stelian Grigoras and Thomas H. Lane

PAB19 An Electronic and Conformational Analysis of Silylacetamide and Its Imidate Tautomer

T. H. Lane, S. Grigoras and A. R. Bassindale

*PAB20 Molecular Mechanics Studies on Various Polysilanes: Conformational Energies and Unperturbed Chain Dimensions

William J. Welsh, Lawrence Debolt and James E. Mark

Silicon Reactive Intermediates
Silyl Radicals, Anions and Cations

PAB21 Synthesis of Antiaromatic Silylenium Ion in Solution
Amirthini Balasingam and Philip Boudjouk

PAB22 Diethylgermanium Dianion. Reactions of Metallation of Organo-germanium Hydrides

D. A. Bravo-Zhivotovski, S. D. Pigarev and N. S. Vyazankin

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

PAB23 Reactions of Free Methyl Cations with Some Tetraalkyl-Substituted Silanes

T. A. Kochina, V. D. Nefedov, E. N. Sinotova and N. A. Gomzina

Silicon-Heteroatom Multiple Bonds

PAB24 Evidence for the Formation of Dialkylsilaselolenones: Reactive Intermediate with Silicon-Selenium Double Bonds

Dennis P. Thompson and Philip Boudjouk

Hypervalent Silicon Compounds

PAB25 Synthesis, Structure and Reactivity of Hexa and Heptacoordinated Silicon Compounds

C. Brelière, F. H. Carré, R. J. P. Corriu, M. Poirier, G. Royo and J. Zwecker

PAB26 Unusual Behaviour of Hexacoordinated Anionic Silicon Species Towards Grignard Reagents: Set Process?

G. Cerveau, C. Chuit, R. J. P. Corriu, L. Gerbier and C. Reyé

PAB27 Reactivity of Hypervalent Species of Silicon: Cleavage of Allyl Silicon Bond

Geneviève Cerveau, Claude Chuit, Robert J. P. Corriu and Catherine Reyé

PAB28 Synthesis, Spectroscopic and Structural Studies of Some Spirocyclic Pseudosilatranes

Christy S. John, Eugene R. Corey and Joyce Y. Corey

***PAB29** Model of the S_N^2 Nucleophilic Substitution at the Si Atom: An X-ray Study of N-(Halogenodimethylsilylmethyl)lactams

A. A. Macharashvili, V. E. Shklover, Yu. T. Struchkov, G. I. Oleneva, E. P. Kramarova, A. G. Shipov and Yu. I. Baukov

***PAB30** Preparation and Reactions of Pentacoordinate Allylsilanes Kazuhiko Sato, Mitsuo Kira and Hideki Sakurai

Silicon-Silicon Chemistry
Strained Rings

PAB31 Reactions of 1,1,2,2,3,3,-4,4-Octamethylspiropentasilane (I) and 1,1-Bis(dimethylbromosilyl)-2,2,3,3-Tetramethylcyclotrisilane (II)

Jeung-Ho So and Philip Boudjouk

Disilenes and Disilynes

PAB32 Theoretical Study on the Singlet Potential Energy Surface of $Si_2 + H_2$ Shiro Koseki and Mark S. Gordon

PAB33 Cyclic Voltammetric Investigation of Disilenes Brian Shepherd and Robert West

Inorganic Chemistry of Silicon
Silicon-Transition Metal
Chemistry

***PAB34** Coordination Chemistry of Siloles: 1-Alkenyl and 1-Alkynyl-1,5-Diphenylsilacyclopentadienes as Ligands

F. Carré, R. Corriu, C. Guérin, B. Henner, B. Kolani and W. W. C. Wong Chi Man

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

*PAB35 Cobalt Carbonyl Complexes of Ethynylsilanes: Reactivity at the Silicon Atom

Robert J. P. Corriu, Joël J. E. Moreau and Hervé Praet

PAB36 A Systematic Investigation of Phosphine-Substituted Hydrido Silyl and Bissilyl Complexes of Iron Ulrich Schubert and Michael Knorr

PAB37 Studies of 1-Acyloxy-2,8,9-trioxa-5-aza-1-silatricyclo[3.3.0^{1,5}]undecanes

Ji-tao Wang, Qin-lan Xie, Ren-an Liao and Jing Li

*C4 Bulky Silyl Ligand Complexes of Tetraacetatodimolybdenum

Vera V. Mainz, Glen C. Otero and Stephanie Bortko

Silicon-Main-Group Chemistry

PAB38 Synthesis and Properties of Siloxanes of II, III, V Group Elements

V. A. Dodonov, R. Ph. Galiulina, Ye. V. Sazonova and L. P. Stepovik

*PAB39 Reactions of Phenylpentafuorosilicate with Main Group Element Halides

Ionel Haiduc and Luminita Silaghi-Dumitrescu

PAB40 Complexes and Reaction Mechanism of Silyl Ethers with Triethylaluminum

Tuula T. Pakkanen, Eila Vähäsarja, Tapani A. Pakkanen, Eero Iiskola and Pekka Sormunen

PAB41 Chlorosilane Disproportionation Reaction by Supported Phosphonium Catalyst

Mamoru Tachikawa, Kouji Shiozawa, Kazutoshi Takatsuna, Yoshiharu Okamura and Takeo Koyama

Silicon in Solid State Technology
Chemical Vapor Deposition of
Silicon and Silicon Compounds

PAB42 Visible Absorption and Emission from Arylmethylpolysilanes Peter Djurovich, Richard Watts and Robert West

Photoresists Containing Silicon

*PAB43 The Synthesis and Spectral Characterization of the First Soluble, Substituted Poly(Diphenylsilane) Homopolymers

R. D. Miller and R. Sooriyakumaran

*PAB44 Soluble Alkyl Substituted Polygermanes: Thermochromic Behavior R. Sooriyakumaran and R. D. Miller

Physical Chemistry, Theoretical Studies and Spectroscopy
Surface Chemistry

PAB45 Chemisorption Studies on the Reconstructed Si(100) Surface Pipsa Makkonen and Tapani A. Pakkanen

Tuesday Morning, June 9

Session A Rebstock Hall
Room 215

**Silicon-Assisted Organic Synthesis
Other Aspects of Silicon-Assisted
Synthesis**
W. P. Weber, Presiding

8:30 A8 Silicon Mediated Transformations in Organic Synthesis
P. D. Magnus

9:10 A9 New Reactive Organosilicon Intermediates: Two Step Direct Allylic Amination of Olefins
Gérard Deleris and Alain Gadrás

9:30 A10 Propargylsilane Approach to Pinguisone
Dieter Schinzer and Gerlinde Dettmer

9:50 A11 Silicon-Assisted Synthesis of β -Lactams
Ernest W. Colvin, Daniel McGarry and Mark Nugent

10:30 **BREAK**

**Other Aspects of Silicon-Assisted
Synthesis**
W. Goure, Presiding

10:50 A12 Novel Synthesis of β -Siloxy Esters by Condensation of Carbonyls and Trimethylsilane with α, β -Unsaturated Esters Catalysed by RhCl_3
Anthony Revis and Terrence K. Hilty

11:10 A13 Acylsilanes as Poly-Synthetic Equivalents in Organic Synthesis
Alfredo Ricci, Alessandro Degl'Innocenti, Gianna Reginato and Pasquale Dembech

5-Minute Poster Summaries

Silicon Assisted Organic Synthesis

11:30 *PAB4 Condensations of Silyl Ketene Acetals Catalyzed by Mercuric Iodide
Ira B. Dicker

11:35 *PAB5 Recent Developments in Cyclopropylsilane Chemistry: Synthesis of Functional Seven Membered Ring Derivatives
Micheline Grignon-Dubois, Mohamed Ahra and Jacques Dunoguès

11:40 *PAB7 Diels-Alder Reactions of 1,4-Bis-Trimethylsiloxy-1,3-Cyclohexadiene
D. E. Lavalla, N. Venkatasubramanian, H. D. Banks and P. Balakrishnan

11:45 *PAB3 Stereospecific Synthesis of New Silylated β -Lactams
Jesus-Maria Aizpuru and Jean-Paul Picard

11:50 *PAB9 Improved Synthesis of Acylsilane Enamines
Jean-Paul Picard and Jesus-Maria Aizpuru

**Physical Chemistry, Theoretical Studies and Spectroscopy
Stereocchemical Studies and Molecular Mechanics Calculations**

11:55 *PAB16 Silanones, Silylenes, Disiloxanes: Theoretical Studies of Structure and Rearrangements
Robert J. Bernstein and Steve Scheiner

12:00 *PAB18 Molecular Mechanics Parameters for Organosilicon Compounds Calculated from Ab Initio Computations
Stelian Grigoras and Thomas H. Lane

12:05 *PAB20 Molecular Mechanics Studies on Various Polysilanes: Conformational Energies and Unperturbed Chain Dimensions

William J. Welsh, Lawrence Debolt and James E. Mark

Silicon in Solid State Technology Photoresists Containing Silicon

12:05 *PAB43 The Synthesis and Spectral Characterization of the First Soluble, Substituted Poly(Diphenylsilane) Homopolymers

R. D. Miller and R. Sooriyakumaran

12:10 *PAB44 Soluble Alkyl Substituted Polygermanes: Thermochromic Behavior

R. Sooriyakumaran and R. D. Miller

Tuesday Morning, June 9

Session B Simon Hall Lower Level

Silicon Reactive Intermediates

Silyl Radicals, Anions and Cations

K. A. Brown-Wensley, Presiding

8:30 B8 On the Nature of Compounds of Trimethylhalosilanes with 1,1,3,3-tetramethylguanidine and 2-Tetramethyl-silyl-1,1,3,3-tetramethylguanidine: Preparation and Characterization of Mono- and Bis(2-trimethylsilyl)-1,1,3,3-tetramethylguanidinium Halides

Subhash C. Chaudhry and Dieter Kummer

8:50 B9 The Reaction of Functionally Substituted Siloles with Alkaline Metals

Wan-Chul Joo, Janghwan Hong and Young-Kun Kong

Silenes

9:10 B10 The Chemistry of Unsaturated Silicon Compounds. Transition Metal Catalyzed Reactions of Silacycloprenes and (Phenylethynyl)polysilanes with Phenyl(trimethylsilyl)acetylene

Mitsuo Ishikawa

9:50 B11 Silicon Reactive Intermediates for Synthesis

Norbert Auner

10:10 BREAK

Silenes

Adrian G. Brook, Presiding

10:30 B12 Silene Rearrangements and Dimerizations

Kim N. Baines, Adrian G. Brook, Paul D. Lickiss, Randal R. Ford and Kazem Safa

10:50 B13 1,2-Siloxetanes and [2+4] Cycloadducts from Reactions of Silenes with Non-enolizable Carbonyl Compounds

Adrian G. Brook and Wayne J. Chatterton

11:10 B14 The Thermal Isomerization of 1,1-Dimethylsilacyclobutene to 1,1-Dimethyl-1-sila-1,3-butadiene

Robert T. Conlin and Mohammad Namavari

11:30 B15 Donor Adduct of Silenes

Nils Wiberg, Klaus Schurz and Gerhard Wagner

5-Minute Poster Summaries

Silylenes

11:50 *PAB10 Synthetic and Mechanistic Aspects of Dimethylsilylene Transfer Reactions in Organometallic Chemistry

Donald H. Berry and Qian Jiang

11:55 *PAB12 Photoreactions of Cyclic Aryldisilanes

Munehiro Yamaguchi, Hisashi Sugiyama, Mitsuo Kira and Hideki Sakurai

12:00 *PAB14 Pyrolysis of Dimethyl-(2-methyl-1-propenyl)(vinyl)silene: Proof of the Homo-ene Reaction Mechanism

Deqing Lei and Peter P. Gaspar

12:05 *PAB15 Synthesis of Sterically Congested Silylene Precursors and the Quest for Triplet Silylenes

Manchao Xiao and Peter P. Gaspar

Hypervalent Silicon Compounds

12:10 *PAB30 Preparation and Reactions of Pentacoordinate Allylsilanes

Kazuhiko Sato, Mitsuo Kira and Hideki Sakurai

12:15 *PAB29 Model of the S_N^2 Nucleophilic Substitution at the Si Atom: An X-ray Study of N-(Halogeno-dimethylsilylmethyl)lactams

A. A. Macharashvili, V. E. Shklover, Yu. T. Struchkov, G. I. Oleneva, E. P. Kramarova, A. G. Shipov and Yu. I. Baukov

Tuesday Morning, June 9

Session C Brown Hall
Room 100

Inorganic Chemistry of Silicon
Silicon-Main Group Chemistry
Gerhard Fritz, Presiding

8:30 C8 From Aminofluorosilanes to Iminosilanes
Uwe Klingebiel

9:10 C9 Latest Advances Concerning the Chemistry of Carbosilanes
Gerhard Fritz

9:30 C10 Si(II) and Si(IV) π -Complexes of C(cage)-Trimethylsilyl-Substituted Carboranes

Narayan S. Hosmane, Upali Siriwardane, M. Safiqul Islam and Thomas A. West

9:50 C11 Acid/Base Assisted Disproportionation Reactions of Tri-organoxy/Organo-Organoxy Silane Amines/Thiocyanates

Suraj P. Narula, Neeta Kapur, Ravi Shankar and Rajesh Malhotra

10:10 BREAK

Catalytic Transformations of Organosilicon Compounds
Mark J. Hampden-Smith, Presiding

10:30 C12 The $HSiR_3/CO/Co_2(CO)_8$ Catalytic Reactions

Shinji Murai

11:10 C13 Factors Affecting the Activation of Organosilane Si-H Bonds by Coordinatively Unsaturated Platinum(0) Species

Howard C. Clark and Mark J. Hampden-Smith

11:30 C14 Cyclohydrosilylation
Sans Siloxetane/Silanone Intermediates; Platinum (0 \rightarrow II \rightarrow IV) Catalysis

H. K. Chu and C. L. Frye

11:50 C15 Deep Oxidation of Organosilicon Compounds by Ozone
Yu. A. Alexandrov and N. N. Seliverstov

5-Minute Poster Summaries

Inorganic Chemistry of Silicon
Silicon-Transition Metal Chemistry

12:10 *PAB34 Coordination Chemistry of Siloles: 1-Alkenyl and 1-Alkynyl-1,5-Diphenylsilacyclopentadienes as Ligands

F. Carré, R. Corriu, C. Guérin, B. Henner, B. Kolani and W. W. C. Wong Chi Man

12:15 *PAB35 Cobalt Carbonyl Complexes of Ethynylsilanes: Reactivity at the Silicon Atom

Robert J. P. Corriu, Joël J. E. Moreau and Hervé Praet

12:20 *C4 Bulky Silyl Ligand Complexes of Tetraacetatodimolybdenum

Vera V. Mainz, Glen C. Otero and Stephanie Bortko

Silicon-Main Group Chemistry

12:25 *PAB39 Reactions of Phenyl-pentafluorosilicate with Main Group Element Halides

Ionel Haiduc and Luminita Silaghi-Dumitrescu

Tuesday Afternoon, June 9

Session A Rebstock Hall
Room 215

Silicon-Assisted Organic Synthesis
Silyl Enol Ether Chemistry
P. D. Magnus, Presiding

2:00 A14 Applications of Organosilicon Reagents to the Synthesis of Natural Products
S. Danishefsky

2:40 A15 Reactions of Ketene Silyl Acetals with Imine-Complexes of Titanium Tetrachloride. New and Convenient Routes to 5,6-Dihydro-2-pyridones and 5-Amino-2-alkenoates
Stephan M. Brandstädter and Iwao Ojima

3:00 BREAK

Other Aspects of Silicon-Assisted Synthesis
G. Ronald Husk, Presiding

3:30 A16 Application of Intramolecular Reactions of Allylsilanes to Natural Products Synthesis

George Majetich

Silicon-Assisted Organic Synthesis
Silicon-Mediated or Group Transfer Polymerization

3:50 A17 Silicon-Mediated or Group Transfer Polymerization
Owen W. Webster

Silicon-Assisted Organic Synthesis
Silicon Template Synthesis

4:30 A18 Cyclic Di- and Tri-acetylenes with Polysiloxane Chains. Novel Transition Metal-Catalyzed Intramolecular Cyclization
Hideki Sakurai, Kazuhiro Hirama and Yasuhiro Nakadaira

Tuesday Afternoon June 9

Session B Simon Hall
Lower Level

Silicon Reactive Intermediates
Hypervalent Silicon Compounds
Robert R. Holmes, Presiding

2:00 B16 Gas Phase Ion Chemistry Leading to Pentacoordinate Silicon Anions
R. Damrauer

2:20 B17 An Ab Initio Study of Five Coordinated Silicon and Phosphorus Chlorofluorides
Joan A. Deiters and Robert R. Holmes

2:40 B18 Some Aspects of the Reactivity of Hypervalent Species of Silicon
R. Corriu

3:20 BREAK

Hypervalent Silicon Compounds
Dieter Kummer, Presiding

3:50 B19 Temperature Dependent Equilibria Between Ionic Tetracoordinate, Neutral Pentacoordinate and Neutral Tetracoordinate Structures of an Organochlorosilane-Nitrogen-Base Adduct

Dieter Kummer, Joachim Seifert, Subhash C. Chaudhry, Bernard Deppisch and Günter Mattern

4:10 B20 Dissociative Stability of Pentacoordinate Silicon Anions
Larry W. Burggraf and Larry P. Davis

4:30 B21 New Five-Coordinated Anionic Silicates

Jeffrey S. Payne, Stephen E. Johnson, John J. Harland, V. Chandrasekhar, Kumara Swamy, Joan M. Holmes, Roberta O. Day and Robert R. Holmes

Silicon Reactive Intermediates
Silicon-Heteroatom Multiple Bonds

4:50 B22 Generation, Stabilization, and Spectra of Intermediates with Silicon-Oxygen Bond

V. N. Khabashesku

Tuesday Afternoon, June 9

Session C Brown Hall
Room 100

Inorganic Chemistry of Silicon Silicides and Zintl Compounds
Z. Lasocki, Presiding

2:00 C16 New Enthusiasm for Metal Silicides: Their Relationship to Zintl Phases

Bernard J. Aylett

Silicon in Solid State Technology
Chemical Vapor Deposition of Silicon and Silicon Compounds

2:40 C17 Atomic and Molecular Fluorine Reactions on Silicon Surfaces

C. D. Stinespring, A. Freedman, J. C. Wormhoudt and C. E. Kolb

3:00 C18 Gas Phase Kinetics Analysis and Surface Studies of Silicon Carbide Chemical Vapor Deposition Chemistry

C. D. Stinespring and J. C. Wormhoudt

3:20 BREAK

Chemical Vapor Deposition of Silicon and Silicon Compounds
Anthony J. Matuszko, Presiding

3:50 C19 The Chemical Vapor Deposition of Silicon Thin Films

B. A. Scott, D. B. Beach, S. M. Gates, J. M. Jasinski and B. S. Meyerson

4:30 C20 Metal Incorporation into Polysilanes

James M. Rozell, Jr., Keith H. Pannell and John M. Ziegler

Preceramics and Ceramics

4:50 C21 Organometallic Polymer Precursors to Ceramics: New Systems
D. Seyferth

Wednesday Morning, June 10

Session A Rebstock Hall
Room 215

Silicon Assisted Organic Synthesis
Other Aspects of Silicon-Assisted Synthesis
Makoto Kumada, Presiding

8:30 A19 Silicon Directed Carbon Skeleton Rearrangement Reactions

Isao Kuwajima

9:10 A20 C-Centred Optically Active Organosilanes: A New Set of Silylated Chiral Auxiliaries

Laura Coppi, Alfredo Ricci and Maurizio Taddei

9:30 A21 Novel 1,3-Elimination Reactions of Organosilicon Compounds. Generation and Reactions of 1,3-Dipolar Reagents

Akira Hosomi, Shinji Hayashi, Shinya Kohra and Yoshinori Tominaga

9:50 A22 Regiospecific Allylation of Aldehydes with Allyltrifluorosilane/Fluoride Ion Systems

Mitsuo Kira, Mineo Kobayashi and Hideki Sakurai

10:10 A23 An Asymmetric Hydrogen Equivalent: Epoxidation of Both Diastereomers of (Z) 2-(1-Naphthylphenylmethylsilyl)-1-phenyl-2-buten-1-ol

Gerald L. Larson, Glenn J. McGarvey and Evelyn Torres

10:30 BREAK

Physical Chemistry, Theoretical Studies and Spectroscopy

Surface Chemistry

William Atwell, Presiding

10:50 A24 The Acidity of Silica-Containing Surfaces

M. L. Hair

Stereochemical Studies and Molecular Mechanics Calculations

11:30 A25 Applications of Molecular Mechanics Calculations for Predictions of Organosilane Structures and Reactivities

Frank K. Cartledge, Salvatore Profeta, Jr., Soo Cho and Raymond J. Unwalla

12:10 A26 Conformational Study of Polydimethylsiloxane Chains

Stelian Grigoras

Wednesday Morning, June 10

Session B Simon Hall
Lower Level

Reactive Intermediates

Silicon-Heteroatom Multiple Bonds
Joseph B. Lambert, Presiding

8:30 B23 Reaction of 6-Oxa-3-sila-bicyclo[3.1.0]hexanes with Phosphinimines. Synthesis of 6-Vinyl-1,3-dioxa-2,4-disilacyclohexanes

William P. Weber, Georges Manuel, Clifford D. Juengst and A. Baceiredo

8:50 B24 Thermochemistry of Alkenyl- and Alkynylsilanes and Their Heteroanalogs

Thomas J. Barton, Larry R. Robinson, Sukhamaya Bain and Ming-Hsiung Yeh

Silicon-Silicon Chemistry
Strained Rings

9:30 B25 Silicon and Germanium Multiple Bond and Polycyclic Ring Systems

Satoru Masamune

10:10 B26 Strained Silacycles: Synthesis, Structures, Reactivity

M. Weidenbruch, A. Schäfer, K.-L. Thom and B. Flintjer

10:30 BREAK

Silicon-Silicon Chemistry
Strained Rings

O. M. Nefedov, Presiding

10:50 B27 Synthesis and Properties of Strained Cyclopolsilanes

Yoichiro Nagai

**Silicon-Silicon Chemistry
Disilenes and Disilynes**

11:30 B28 The Bonding in 1,3-Cyclopolysiloxanes: ^{29}Si NMR Coupling Constants in Disilenes and 1,3-Cyclopolysiloxanes

Howard B. Yokelson, Anthony J. Millevolte, Bruce R. Adams and Robert West

11:50 B29 Recent Chemistry of the Silicon-Silicon Double Bond

Robert West, Howard B. Yokelson, Gregory R. Gillette and Eric Pham

Wednesday Morning, June 10

**Session C Brown Hall
Room 100**

**Silicon in Solid State Technology
Photoresists Containing Silicon**
Dietmar Seyferth, Presiding

8:30 C22 Polysilanes: Science and Applications

R. D. Miller

9:10 C23 Naphthoquinone Diazo-polysiloxanes - New Organosilicon Near-UV Photoresists

E. Babich, J. Shaw, M. Hatzakis, J. Paraszczak, D. Witman and B. J. Grenon

9:30 C24 Syntheses and Characterization of Organometallic-Derived Cordierite

Lawrence D. David, Ronald M. Anderson, Charles C. Goldsmith, Joseph J. Dyns and Andrew Szule

Polycrystalline and Amorphous Silicon

9:50 C25 Mechanisms of Silane CVD
Pauline Ho

10:30 BREAK

Polycrystalline and Amorphous Silicon
R. D. Miller, Presiding

10:50 C26 Catalytic Deposition of Hydrogenated Amorphous Silicon (a-Si:H)

Masud Akhtar, Kevin Gaughan and Herbert A. Weakliem

11:10 C27 Volatile Organosilanes and -Germanes for Vapour Deposition of Amorphous Silicon and Germanium

Hubert Schmidbauer, Cornelia Doerzbach, Jan Ebenhoech and Johann Rott

Plasma Etching of Silicon and Silicon Oxides

11:30 C28 Plasma Etching of Silicon and Silicon Oxides

D. L. Flamm

12:10 C29 The Use of Organosilicon Polymers in Multilayer Plasma Resist Processing

J. Paraszczak, E. Babich, R. McGouey, M. Hatzakis and J. Shaw

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

Poster Session PCD - An asterisk (*) indicates that a 5-minute oral summary of the contribution is scheduled elsewhere in the Thursday Morning or Thursday Afternoon technical program.

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds

PCD1 Si-Functional Dimethyl(N-Acetylacetamidomethyl)silanes - Pentacoordinate Silicon Compounds with a Migrating Si-O Bond

L. I. Belousova, B. A. Gostevski, O. A. Vyazankina, N. S. Vyazankin, O. B. Bannikova, I. D. Kalikhman and V. A. Pestunovich

PCD2 The Effect of the Amine Structure on the Course of the Reaction with Trimethylsilylpropynals

A. I. Borisova, A. S. Medvedeva and N. S. Vyazankin

PCD3 Hydrosilylation Studies on Acetylenes and R_3SiH ($R = Et_3, O_3, O_2Me, OMe_2$) Using a Norbornadiene- t Triphenylphosphine Ethane Rh⁺ Salt as a Catalyst

Jorge J. Cervantes, Guillermo A. Gonzalez and K. H. Pannell

PCD4 The Reaction of Trimethylsilylpropionic Acid Derivatives with Hydrazines

M. M. Demina, A. S. Medvedeva and N. S. Vyazankin

*PCD5 Synthesis of Disiloxanes Containing Hydroxyalkyl Groups

M. Heß, F. Braun, L. Willner and R. Kosfeld

PCD6 The Chemistry of Polyhedral Oligosilsesquioxanes. Some Chemical Properties of Pervinylotcasilsesquioxane

Victor M. Kovrigin and Vladimir I. Lavrent'ev

*PCD7 Silylketenes in [2+2]-Cyclo-addition Reactions

L. I. Livantsova, G. S. Zaitseva, Yu. I. Baukov and I. F. Lutsenko

PCD8 Orientation of the Dipole in the Reaction of Methyldiazoacetate with Substituted Propynals

O. I. Margorskaya and A. S. Medvedeva

PCD9 Regioselectivity of the Reaction of Substituted Propynals with Methyldiazoacetate in the Presence of $Co_2(CO)_8$

A. S. Medvedeva and O. I. Margorskaya

PCD10 Nucleophilic Reaction of Trimethylsilylpropionic Acid Chloride

L. P. Safronova, A. S. Medvedeva, N. N. Chipanina and N. I. Shergina

PCD11 Silylcyclopropanones. Synthesis and Reactivity

G. S. Zaitseva and O. P. Novikova

New Developments in the Formation of Silicon-Carbon Bonds

*PCD12 Synthesis of Polyphenyl-Triphenylene Organosilicon Compounds

Shi Baochuan

PCD13 Silylation of Different Cyano Epoxides Using Trimethylchlorosilane

Mohammed Bolourtchian

*PCD14 Silylation of Natural Products for the Preparation of New Chiral Tools for Asymmetric Synthesis

Alessandro Mordini and Maurizio Taddei

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

PCD15 The Hydrosilylation of Carbonyl Compounds Catalysed by Fluoride

Zeng-You Zhang, Hui-you Liu and Ji-tao Wang

*PCD16 Catalytic Reactions of Alkenylsilanes with Propynol

Siyavush Karaeiv, Shaig Guseinov and Vidadi Bairamov

Silicon in Living Systems
Bioorganosilicon Chemistry

PCD17 Hydrosilylation of N-Vinyl- ϵ -Caprolactone with Alkyl/Aryl/-Hydridochlorosilanes

D. Sh. Akhobadze, L. M. Khananashvili, D. B. Otiashvili

PCD18 Biogenic Silica: Solid-State Silicon-29 NMR in Structure Elucidation

A. S. W. de Freitas, A. W. McCulloch, A. G. McInnes and J. A. Walter

PCD19 Organosilicon Derivatives of Diallylisocyanurate and Cyanuric Acid

G. A. Razuvaev, A. S. Gordetssov, A. P. Kozina, T. N. Brevnova and V. V. Semenov

*PCD20 Investigations of C/Si-Bioisosterism: Syntheses and Properties of Derivatives of Hexahydro-Sila-Difenidol

R. Tacke, C. Strohmann, H. Zilch, G. Lambrecht, U. Moser and E. Mutschler

PCD21 Some Investigations into the Reaction of Chlorosilanes with Aqueous Methylcobalamin

John S. Thayer

Silicon-Silicon Chemistry
Polysilanes

PCD22 The Preparation and Structure of a Linear Trisilane of Dihydrosilaanthracene

Lihsueh S. Chang, Joyce Y. Corey and Eugene R. Corey

*PCD23 The Chemistry of Some Small Silylated Polysilanes

Paul D. Lickiss and Y. Derouiche

*PCD24 Structural Determination of Polysilanes by 2D-²⁹Si NMR

Jim Maxka, Bruce Adams and Robert West

*PCD25 Structure of Linear Polydiphenylsilanes

Yu. E. Ovchinnikov, V. E. Shklover, V. V. Dement'ev, T. M. Frunze and Yu. T. Struchkov

PCD26 Regioselectivity of the Reactions of Organopolysilanes with Organic Peroxides

G. A. Razuvaev, V. V. Semenov, T. N. Brevnova and A. N. Kornev

Silicon-Oxygen Polymers and Materials

Polysiloxanes, Silicones and Organosilicon Elastomers

*PCD27 Investigation of the Factors Controlling the Rate of Heterocondensation of Alkoxy silanes with Silanols

J. Cavezzan and J. M. Frances

*PCD28 Polyhedral Oligometallasilsesquioxanes: New Applications for Some Interesting Old Materials

Frank J. Feher

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

PCD29 The Influence of Thermal Stabilizer and Filler on the Thermal Transformations of Silicone Rubber Based Vulcanizates in Vacuum
E. A. Goldovskii, G. V. Chubarova, A. A. Lapshova, and A. A. Dontsov

PCD30 Polyurethane - Polydimethylsiloxane Interpenetrating Polymer Networks Membranes for Selective Oxygen Permeability
D. W. Kang, J. K. Yang, J. R. Han and I. H. Jung

PCD31 Copolymerization of 1,3-Dithienyl-1,3,5-trimethyl-5-vinylcyclo-trisiloxane with Styrene
L. M. Khananashvili, Ts. N. Vardosanidze, E. G. Markarashvili and N. O. Kupatadze

PCD32 Silicone Micro-Resin. Preparation and Properties of Monodispersed Spherical Polymethylsilsesquioxane Particles
Hiroshi Kimura

PCD33 Substitution Effects of Ethynylsilane Inhibitors on Cure Properties of Addition Cure Silicone Rubber
Atsushi Kurita, Sam Huy, Yasuji Matsumoto and Bunjiro Murai

*PCD34 New Silicone Modified Polyimides
Karin D. Lavin and David A. Williams

*PCD35 The Physical and Radiation Curing Properties of Acrylate Organopolysiloxanes Derived from Michael Addition of Aminoorganopolysiloxanes to Acrylic Monomers/Oligomers
Walter L. Magee and Roy M. Griswold

*PCD36 Cobaltaorganosiloxane of Unusual Structure
Yu. E. Ovchinnikov, V. E. Shklover, Yu. T. Struchkov, M. M. Levicky and A. A. Zhdanov

PCD37 Specific Redistribution of Siloxane Links in the Macromolecule in the Process of Obtaining Polydimethyl(methylphenyl)siloxane
G. A. Razuvaev, L. M. Terman and L. G. Klapshina

*PCD38 Block Copolymer on the Basis of Branched Organosilicon Oligomers
M. A. Sipyagina and E. E. Stepanova

PCD39 Investigation of Some Optical and Mechanical Properties of Polysiloxanes
B. B. Troitskii, V. N. Myakov, S. V. Pripadchev and L. V. Khokhlov

PCD40 Thermodynamic Characteristics of Anionic Polymerization of Thienylmethylcyclosiloxanes
Ts. N. Vardosanidze, L. M. Khananashvili, E. G. Markarashvili and D. A. Girgviani

*PCD41 Silicon Chemistry and Carbocationic Polymerization: Modification of Polyisobutylenes
Lech Wilczek and Joseph P. Kennedy

PCD42 A Study on Methylallylsilyl Terminated Polydimethylsiloxanes
Qingli Zhou, Yongxing Cao, Xiaoxian Xia and Weishen Yang

Silicon Adhesives

*PCD43 Photoreactivity of Vinylsilyl Group and Isopropenoxyisilyl Group with Thiol
Shinichi Sato and Mastoshi Arai

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

PCD44 Novel Zwitterionic Surfactants: Synthesis and Characterization of Silicon Sulfobetaines
Steven A. Snow, William N. Fenton and Michael J. Owen

Silicon-Supported Catalysts and Silicon Coupling Agents

PCD45 Silicone Supported Transition Metal Complex Catalysts - Synthesis of Poly- ω -diphenylphosphino-undecylsiloxane Platinum Complex and Its Catalytic Activity for Hydro-silylation and Hydrogenation of Unsaturated Compounds

Xiao Chaobo, Lin Yigeng, Chen Yuanyin

Silica and Silicate Glasses Including Sol Gels

*PCD46 Kinetics of the Sol-Gel Polymerization Reaction
Roger A. Assink and Bruce D. Kay

Physical Chemistry, Theoretical Studies and Spectroscopy Kinetic and Mechanistic Studies

*PCD47 Medium Effects in Dehydro-condensation of Hydrosilanes with Hydroxylic Reagents
Jerzy Chruściel and Zygmunt Lasocki

*PCD48 Transition State Theory (TST) Study on Cis-Trans Isomerization in Disilenes
Ju Guanzhi and Yang Yuwei

*PCD49 Graft and Thermal Decomposition Mechanism of Ethoxysilatrane on Silica
G. Palavit, P. Vast, J. Ph. Rosnet and M. Imbenotte

PCD50 Studies on the Kinetics of Hydrosilation of Aromatic Aldehydes
Zhou Xiu-zhong and Geng Bo-lin

Thermochemistry of Silicon Compounds and Reactions

PCD51 A New Technique for Thermochemical Investigation of Organo-silicon Compounds

M. G. Voronkov, V. A. Klyuchnikov, A. N. Korchagina, T. F. Danilova and G. N. Shvets

Quantum Mechanical Calculations of Structure and Reaction Paths

PCD52 Theoretical Study of Substituted Silabzenes

K. K. Baldridge and M. S. Gordon

PCD53 Theoretical Studies of Three-Membered, X_2H_4Y ($X = C, Si$; $Y = CH_2, NH, O, SiH_2, PH, S$) and Cyclic $C_2Si_4H_6$ ($n = 0-4$) Compounds
Jerry A. Boatz and Mark S. Gordon

*PCD54 Anomeric Effect at Silicon
P. N. V. Pavan Kumar, Eluvathingal D. Jemmis, D. X. Wang, B. Lam and T. A. Albright

PCD55 Hyperconjugation in Phenyl- and Benzylsilanes
A. N. Egorochkin and G. A. Razuvaev

PCD56 π Bond Strengths in Second and Third Periods
Michael W. Schmidt, Phi N. Truong and Mark S. Gordon

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

Physical Characterization of Silicon Compounds and Materials

PCD57 Intramolecular Interaction in Tetra- and Pentacoordinate Silicon Compounds Containing a (Si)-O-C-C-N Fragment

E. I. Brodskaya, M. G. Voronkov, D. D. Toryashinova, D. D. Chuvashev, G. V. Ratovski and V. P. Bartshok

*PCD58 Synthesis and Spectral Characteristics of Diorganosilicon(IV) Dithizonate Complexes

Yogendra Singh, Devendra D. Pathak and Ramesh N. Kapoor

Photochemistry, Radiation Chemistry and Hot Atom Chemistry

PCD59 Photolysis of Silylene and Silene Precursors

Stanislaw Konieczny, Janet Braddock, Joyce Y. Corey and Peter P. Gaspar

PCD60 Reactions of Recoiling Silicon Atoms in Gaseous Mixtures of Phosphine Silane and Tetramethylsilane

Kayhan Garmestani, Stephen Chiarello and Peter P. Gaspar

PCD61 Photochemical Generation of a Hindered Silacyclobutadiene

Dhananjay Puranik and Mark Fink

Mass Spectroscopy, Flowing Afterglow and Ion-Molecule Reaction Studies

PCD62 General Mass Spectrometric Behaviour of Linear, Cyclic, Polycyclic and Polyhedral Oligoorganylsiloxanes

Vladimir I. Lavrent'ev, Victor M. Kovrigin, Vadim M. Moralev

²⁹Si NMR Spectroscopy

*PCD63 Identification and Kinetics of Dimeric Sol-Gel Species by ²⁹Si NMR

D. H. Doughty, R. A. Assink, B. D. Kay and S. L. Martinez

*PCD64 ²⁹Si NMR Access to the Structure of Molecules
Micheline Grignon-Dubois and Michel Laguerre

Decomposition Studies

PCD65 Kinetics and Mechanism of Thermal Decomposition of Silacycloalkanes and Thiasilacycloalkanes

L. E. Gusel'nikov, P. E. Ivanov, V. V. Volkova and E. A. Volnina

Organic Chemistry of Silicon New Approaches to Inexpensive Organosilicon Compounds

PCD66 Considerations on Rochow Synthesis Catalyst
Nan Chang-Min

Thursday Morning, June 11

Session A Rebstock Hall
Room 215

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds
Joël Moreau, Presiding

8:30 A27 Carbon-Functional
Organosilicon Compounds in Organic
Synthesis

Paul F. Hudrlik

9:10 A28 Direct Approaches to the
Synthesis of α -Hydroxysilanes

Russell J. Linderman, Yun Suhr
and Ameen Ghannam

9:30 A29 New Functional Polysila-
methylenes

Jean-Paul Pillot, Eric Bacqué,
Marc Birot and Jacques Dunoguès

9:50 A30 Synthesis and Fluxional
Behavior of Di-tert-butyldicyclopenta-
dienyl Compounds of Group IV Ele-
ments

Sultan T. Abu-Orabi, and Peter
Jutzi

10:10 A31 Stereochemistry of a GTP
Oligomer

W. J. Brittain, F. Davidson and
G. S. Reddy

10:30 BREAK

Organic Chemistry of Silicon
Robert T. Conlin, Presiding

10:50 A32 Syntheses of Alkynesi-
lanes, Polyphenylsilanes and Their
Polysilanes

Chen Jianhua, Feng Shengyu, Li
Xinhua, Yin Shang and Du Zuo-
dong

11:30 A33 Metalation of Silacyclo-
pentenes and Regiocontrolled Genera-
tion of the Anion of Allylsilanes by
Neighboring Group Participation

R. F. Horvath and T. H. Chan

11:50 A34 The Chemistry of Tri-
(tert-butoxy)silyl Isocyanide. Ab
Initio Calculations of Silyl Cya-
nide/Isocyanide Energies

Walter R. Hertler, David A. Di-
xon, Ellen W. Matthews, Fred-
eric Davidson and Fulton G.
Kitson

5-Minute Poster Summaries

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds

12:10 *PCD5 Synthesis of Disilox-
anes Containing Hydroxyalkyl Groups
M. Heß, F. Braun, L. Willner
and R. Kosfeld

12:15 *PCD7 Silylketenes in
[2+2]- Cycloaddition Reactions
L. I. Livantsova, G. S. Zait-
seva, Yu. I. Baukov and I. F.
Lutsenko

New Developments in the Formation
of Silicon-Carbon Bonds

12:20 *PCD12 Synthesis of Poly-
phenyl-Triphenylene Organosilicon
Compounds
Shi Baochuan

12:25 *PCD14 Silylation of Natural
Products for the Preparation of New
Chiral Tools for Asymmetric Synthe-
sis

Alessandro Mordini and Maurizio
Taddei

12:30 *PCD16 Catalytic Reactions
of Alkenylsilanes with Propynol
Siyavush Karaeiv, Shaig Gusei-
nov and Vidadi Bairamov

Thursday Morning, June 11

Session B Simon Hall
Lower Level

**Silicon-Silicon Chemistry
Polysilanes**
Jonathan A. Rich, Presiding

**8:30 B30 Catalytic Preparation of
Oligomeric Polysilanes**
R. Becker, R. Corriu, C.
Guérin, and B. Henner

**8:50 B31 Synthesis and Reactions
of Disilane Containing Two Triflate
Groups**
Y. L. Chen and K. Matyjaszewski

**9:10 B32 Polysilanes: New
Results in Cyclo- Oligo- and
Polysilanes**
Edwin Hengge

**9:50 B33 Synthesis and Properties
of Some Silicon-Phosphorus, Silicon-
Arsenic and Silicon-Antimony Com-
pounds**
Karl Hassler and Sigrid Seidl

**10:10 B34 A Novel Bicyclopoly-
silane: Decaisopropylbicyclo[2.2.0]-
hexasilane**
Hideyuki Matsumoto, Hiroshi
Miyamoto, Nobumoto Kojima, Yoi-
chiro Nagai and Midori Goto

10:30 BREAK

Polysilanes
Paul D. Lickiss, Presiding

**10:50 B35 Cleavage of Polysilanes
by Photo-Induced Electron Transfer**
Yasuhiro Nakadaira, Norio
Komatsu and Hideki Sakurai

**11:10 B36 Reaction of Vinyldisi-
lanes Catalyzed by Platinum Com-
plexes and Its Applications in Poly-
mer Technology**
Hiroshige Okinoshima

**11:30 B37 Electronic Spectra of
Cyclopoly silanes**
Harald Stüger and Edwin Hengge

**11:50 B38 The Photolysis of a New
Cyclopoly silane System Containing a
Heteroatom, Peralkyltrisilaoxetanes**
H. Watanabe, E. Tabei, N.
Hirai, M. Yoshikawa, M. Goto,
M. Matsuyama, M. Kobayashi and
Y. Nagai

5-Minute Poster Summaries

Polysilanes

**12:10 *PCD23 The Chemistry of Some
Small Silylated Polysilanes**
Paul D. Lickiss and Y.
Derouiche

**12:15 *PCD24 Structural Determina-
tion of Polysilanes by 2D-²⁹Si NMR**
Jim Maxka, Bruce Adams and
Robert West

**12:20 *PCD25 Structure of Linear
Polydiphenylsilanes**
Yu. E. Ovchinnikov, V. E.
Shklover, V. V. Dement'ev, T.
M. Frunze and Yu. T. Struchkov

**Silicon-Oxygen Polymers and
Materials**
Silica and Silicate Glasses
Including Sol Gels

**12:25 *PCD46 Kinetics of the Sol-
Gel Polymerization Reaction**
Roger A. Assink and Bruce D.
Kay

Thursday Morning, June 11

Session C Brown Hall
Room 100

**Physical Chemistry, Theoretical
Studies and Spectroscopy**
Kinetic and Mechanistic Studies
Hans Bock, Presiding

**8:30 C30 Kinetics and Mechanisms
of SiH₂ Reactions with Olefins and
of the Thermal Decomposition of
Silicon Hydrides**
M. A. Ring and H. E. O'Neal

9:10 C31 Kinetic Investigation of Group Transfer Polymerization
W. J. Brittain and D. Y. Sogah

9:30 C32 Reaction Rates of the Difluorosilylene Radical, SiF₂, with Chlorine and Fluorine Over an Extended Temperature Range

A. Freedman, K. E. McCurdy and J. Wormhoudt

Physical Characterization of Silicon Compounds and Materials

9:50 C33 Polysilane Photochemistry and Laser Desorption Mass Spectrometry

Thomas Magnera, Balaji Veeraraghavan, Robert D. Miller and Josef Michl,

10:30 BREAK

Kinetic and Mechanistic Studies
Robin Walsh, Presiding

10:50 C34 Direct Determination of Absolute Rate Constants for Silylene Reactions in the Gas Phase
J. M. Jasinski and J. O. Chu

11:30 C35 RRKM Prediction of High Pressure Arrhenius Parameters by Non-Linear Regression: Application to Silane and Disilane Decomposition
Karl F. Roenigk, Klavs F. Jensen and Robert W. Carr

Physical Characterization of Silicon Compounds and Materials

11:50 C36 New Trends in Vibrational Spectroscopy of Compounds with Si-O Bonds

Adrian N. Lazarev, Igor S. Ignatyev, Boris F. Shchegolev, Michail B. Smirnov and Tamara F. Tenisheva

5-Minute Poster Summaries

Kinetic and Mechanistic Studies

12:10 *PCD47 Medium Effects in Dehydrocondensation of Hydrosilanes with Hydroxylic Reagents
Jerzy Chrucielski and Zygmunt Lasocki

12:15 *PCD48 Transition State Theory (TST) Study on Cis-Trans Isomerization in Disilenes
Ju Guanzhi and Yang Yuwei

Physical Characterization of Silicon Compounds and Materials

12:20 *PCD58 Synthesis and Spectral Characteristics of Diorganosilicon(IV) Dithizonate Complexes
Yogendra Singh, Devendra D. Pathak and Ramesh N. Kapoor

Thursday Afternoon, June 11

Session A Rebstock Hall
Room 215

Organic Chemistry of Silicon Carbofunctional Organosilicon Compounds
Paul R. Jones, Presiding

2:00 A35 Organosilicon(IV) Complexes with Schiff Bases Derived from Amino Acids
A. K. Varshney and T. P. Tandon

2:20 A36 Unusual Chemical and Physical Properties of Polysilylpolyyynes
Paul R. Jones, Todd E. Albanesi, Yukiko Iwata, Priscilla C. Jones and Gary B. Ward

2:40 A37 The Chemistry of Silyl-Substituted Fischer-Type Carbene Complexes

Ulrich Schubert, Hannelore Hörnig, Jahanna Kron and Wolfgang Hepp

3:00 BREAK

New Developments in the Formation of Silicon-Carbon Bonds
R. Bruce Frye, Presiding

3:20 A38 The Chemistry from Silica to Organosilicon Intermediates

John L. Speier

4:00 A39 New Catalysts for the Redistribution and Disproportionation of Organohalosilanes

K. M. Lewis, B. Kanner and C. C. Chang

4:20 A40 Synthesis and Spectral Studies of Some Silicon and Organosilicon Derivatives of Organic Ligands

M. A. Mohammad

4:50 A41 Silylative Decarbonylation: A New Route to Aromatic Chlorosilanes

Jonathan D. Rich

Thursday Afternoon, June 11

Session B Simon Hall
Lower Level

Silicon-Silicon Chemistry
Polysilanes

Denis Forster, Presiding

2:00 B39 High Resolution NMR Characterization of Aryl Substituted Polysilanes

J. Maxka, W. Fleming, R. D. Miller, R. Sooriyakumaran, G. N. Fickes and R. West

2:20 B40 Polycyclic Silanes
Friedrich Karl Mitter and Edwin Hengge

Silicon-Oxygen Polymers and Materials

Silicon Containing Coatings and Encapsulants

2:40 B41 Recent Advances in Organosiloxane Copolymers

James E. McGrath

3:20 BREAK

Silicic Acids, Clathrasiles and Zeolites

John P. Oliver, Presiding

3:50 B42 Syntheses of Porous Tectosilicates: Parameters Controlling the Pore Geometry

Friedrich Liebau

4:10 B43 Polycyclic Silicic Acid Derivatives

Ehler Meyer and Heinrich Marsmann

5-Minute Poster Summaries

Silicon-Oxygen Polymers and Materials

Polysiloxanes, Silicones and Organosilicon Elastomers

4:30 *PCD27 Investigation of the Factors Controlling the Rate of Heterocondensation of Alkoxy silanes with Silanols

J. Cavezzan and J. M. Frances

4:35 *PCD28 Polyhedral Oligometallasilsesquioxanes: New Applications for Some Interesting Old Materials

Frank J. Feher

4:40 *PCD34 New Silicon Modified Polyimides

Karin D. Lavin and David A. Williams

4:45 *PCD35 The Physical and Radiation Curing Properties of Acrylate Organopolysiloxanes Derived from Michael Addition of Amino-organopolysiloxanes to Acrylic Monomers/Oligomers

Walter L. Magee and Roy M. Griswold

4:50 *PCD36 Cobaltaorganosiloxane of Unusual Structure

Yu. E. Ovchinnikov, V. E. Shklover, Yu. T. Struchkov, M. M. Levicky and A. A. Zhdanov

4:55 *PCD38 Block Copolymer on the Basis of Branched Organosilicon Oligomers

M. A. Sipyagina and E. E. Stepanova

5:00 *PCD41 Silicon Chemistry and Carbocationic Polymerization: Modification of Polyisobutylenes

Lech Wilczek and Joseph P. Kennedy

Silicon Adhesives

5:05 *PCD43 Photoreactivity of Vinylsilyl Group and Isopropenoxy-silyl Group with Thiol

Shinichi Sato and Mastoshi Arai

Silicon in Living Systems

Bioorganosilicon Chemistry

5:10 *PCD20 Investigations of C/Si-Bioisosterism: Syntheses and Properties of Derivatives of Hexahydro-Sila-Difenidol

R. Tacke, C. Strohmann, H. Zilch, G. Lambrecht, U. Moser and E. Mutschler

Thursday Afternoon, June 11

Session C Brown Hall
Room 100

Physical Chemistry, Theoretical Studies and Spectroscopy
Thermochemistry of Silicon Compounds and Reactions
Kim N. Baines, Presiding

2:00 C37 Thermochemistry and Reactivity of Silylenes
Robin Walsh

2:40 C38 Investigations on Potential Use of Carbosilyl Amine Polymers as Ceramic Precursors
Paul Abrahams and Yitbarek H. Mariam

3:00 C39 Thermoanalytical Investigations of Curing and Decomposition of Methylsilicone Resin
Otto Schneider

3:20 BREAK

Quantum Mechanical Calculations of Structure and Reaction Paths
Jacques Dunoguès, Presiding

3:50 C40 The Silicon-Ligand Bond in $\text{Si}(\text{C}_6\text{H}_5)_4$ and $(\text{OH})_2\text{Si}(\text{C}_6\text{H}_5)_2$: A Study Based on X-ray Emission and X-ray Photoelectron Spectra
M. A. Mohammad and D. S. Urch

4:10 C41 Ab Initio SCF Calculations of ^{29}Si Nuclear Magnetic Resonance Shift Tensors

John R. Van Wazer, Carl S. Ewig and Robert Ditchfield

4:30 C42 Theoretical Studies of Organosilicon Chemistry

Mark S. Gordon, Kim K. Baldwin, David Bartol, Michael W. Schmidt, Shiro Koseki and Dorothy Johansen

5-Minute Poster Summaries

29 Si NMR Spectroscopy

5:10 *PCD63 Identification and Kinetics of Dimeric Sol-Gel Species by ²⁹ Si NMR

D. H. Doughty, R. A. Assink, B. D. Kay and S. L. Martinez

5:15 *PCD64 ²⁹ Si NMR Access to the Structure of Molecules

Micheline Grignon-Dubois and Michel Laguerre (oral summary by Jacques Dunoguès)

Quantum Mechanical Calculations of Structure and Reaction Paths

5:20 *PCD54 Anomeric Effect at Silicon

P. N. V. Pavan Kumar, Eluvathingal D. Jemmis, D. X. Wang, B. Lam and T. A. Albright

Friday Morning, June 12

Session A Rebstock Hall
Room 215

Organic Chemistry of Silicon
New Approaches to Inexpensive Organosilicon Compounds
Gerard Soule, Presiding

8:30 A42 New Approaches to Organosilicon Compounds

B. Kanner, J. M. Quirk and W. B. Herdle

Analytical Chemistry
Bonded Phases and Other Silicon Compounds in Analytical Chemistry

9:10 A43 Structure Investigations of Bonded Phases and Silica Gels by High Resolution Solid State ²⁹ Si NMR
Klaus Albert, Bettina Pfleiderer and Ernst Bayer

9:30 A44 The Preparation of Polysiloxanes for Capillary Column Chromatography

J. S. Bradshaw, B. J. Tarbet, A. C. Finlinson, S. Aggarwal, C. A. Rouse, K. E. Markides and M. L. Lee

9:50 A45 Predicting and Utilizing Column Pclarity as a Function of Substituent Concentrations in Siloxane Phases

John J. Harland, Roy M. A. Lautamo and Edward J. Guthrie

10:10 A46 Novel Methods of Deactivation of Fused Silica Capillary Columns for Use in Chromatography

B. J. Tarbet, C. L. Woolley, K. E. Markides, J. S. Bradshaw and M. L. Lee

10:30 **BREAK**

Silicon in Living Systems
Bioorganosilicon Chemistry
R. Tacke, Presiding

10:50 A47 The Value and New Directions of Silicon Chemistry for Obtaining Bioactive Compounds

Sandor Barcza

11:30 A48 Preparation of Optically Active Organosilicon Compounds Using Biotransformations

R. Tacke, K. Fritsche, H. Hengelsberg, A. Tafel, F. Wuttke, H. Zilch, C. Syldatk, H. Andree, A. Stoffregen and F. Wagner

11:50 A49 Silicon in Living Nature
M. G. Voronkov

Friday Morning, June 12

Session B Simon Hall
Lower Level

Silicon-Oxygen Polymers and Materials

Polysiloxanes, Silicones and Organosilicon Elastomers
Malcolm E. Kenney, Presiding

8:30 B44 Naphthoquinone Diazo-polysiloxanes and Its Radiation Sensitive Analogues: Synthesis and Properties

E. Babich, J. Shaw, M. Hatza-kis, J. Paraszczak and D. Witman

8:50 B45 A New Route to Alkoxy-siloxanes and Alkylsiloxanes

George B. Goodwin and Malcolm E. Kenney

9:10 B46 Mechanistic Features of Processes Leading to Siloxane Polymers

Julian Chojnowski

9:50 B47 New Fluorinated Polysiloxanes

Rosita Dorigo, Anne-Marie Gar-nault, Dominique Teyssié and Sylvie Boileau

10:10 B48 Syntheses and Reactions of Uniform Size Poly(dimethylsiloxane) with Various Reactive End Groups

Yasuyuki Tezuka, Hideki Kazama, Tatsuya Ono and Kiyokazu Imai

10:30 Break

Polysiloxanes, Silicones and Organosilicon Elastomers
Harry Newton, Presiding

10:50 B49 Anionic Rearrangement of 6- and 8-Membered N-Phenylcyclo-silazoxanes

Zygmunt Lasocki and Małgorzata Witekowa

11:10 B50 Studies on the Synthesis and Phase Behaviour of Polysiloxanes with Mesogenic Side Groups

Renxi Zhuo, Jiang You, Gaowei Liu, Heng Wang and Lifu Ma

Silicon-Supported Catalysts and Silicon Coupling Agents

10:30 B51 Sequential Silicone Interpenetrating Polymer Networks

Barry Arkles and Arne O. Fin-berg

Friday Morning, June 12

Session C Brown Hall
Room 100

Physical Chemistry, Theoretical Stu-dies and Spectroscopy

^{29}Si NMR Spectroscopy

William D. Phillips, Presiding

8:30 C43 ^{29}Si NMR Spectroscopy in Organic Chemistry

Jan Schraml

9:10 C44 Studies on Molecular Mobility of H_2SiO_4 Containing Oligomeric Siloxanes by ^{29}Si -NMR

M. Heß, R. Krause and R. Kos-feld

9:30 C45 ^{29}Si - ^{15}N Spin-Spin Coupling Constants: A New Probe for Structural Investigations

E. Kupče and E. Lukevics

9:50 C46 ^{29}Si CP/MAS NMR and X-ray Structural Studies of Some Sim-ple Organosilanes and Silylmetallic Compounds

John P. Oliver, Sreeni DeMel, Mike Sierra, Jeff Kampf, Greg Hendershot, Mary Jane Heeg, Ole Mols and E. Alan Sadurski

10:10 C47 ^{29}Si , ^{13}C and ^{17}O NMR Relaxation Studies on Polysiloxanes
Alan R. Bassindale and Keith H. Pannell

10:30 BREAK

Photochemistry, Radiation Chemistry and Hot Atom Chemistry of Silicon Compounds
Morey A. Ring, Presiding

10:50 C48 The Spectroscopy and Photochemistry of Some Silicon Halide and Silicon Hydride Molecules
Otto P. Strausz, Vinod Sandhu, Bela Ruzsicska, Imre Safarik and Thomas N. Bell

11:30 C49 Charge-Transfer Excited States of Phenylethynylpentamethyl-disilanes
Keith A. Horn, Robert B. Grossman and Anne A. Whitenack

Mass Spectroscopy, Flowing Afterglow and Ion-molecule Reaction Studies

11:50 C50 Ion-Molecule Reactions and Mass Spectrometry of Silanes and Organosilane Systems
F. W. Lampe

Friday Afternoon, June 12

Session A Rebstock Hall
Room 215

Silicon in Living Systems
Health and Environmental Aspects of Organosilicon Materials
C. L. Frye, Presiding

2:00 A50 Permethylated Siloxane Insect Toxicants
Robert R. LeVier

2:40 A51 Methyl Mercury from Polydimethylsiloxane (PDMS) in the Aquatic Environment: Ecological Menace or Myth?
Cecil L. Frye and Hsien Kun Chu

Friday Afternoon, June 12

Session B Simon Hall
Lower Level

Silicon-Oxygen Polymers and Materials
Silicon Adhesives
Thomas J. Barton, Presiding

2:00 B52 The Structure of a Methacryloxy-functional Silane Coupling Agent in a Sizing Agent
Hatsuo Ishida and Kazuo Nakata

Physical Chemistry, Theoretical Studies and Spectroscopy
Decomposition Studies

2:40 B53 Unstable Organosilicon Intermediates in Pyrolysis and Dehalogenation Using Alkali Metal Vapors
Leonid E. Gusel'nikov

Friday Afternoon, June 12

Session E Wohl Center

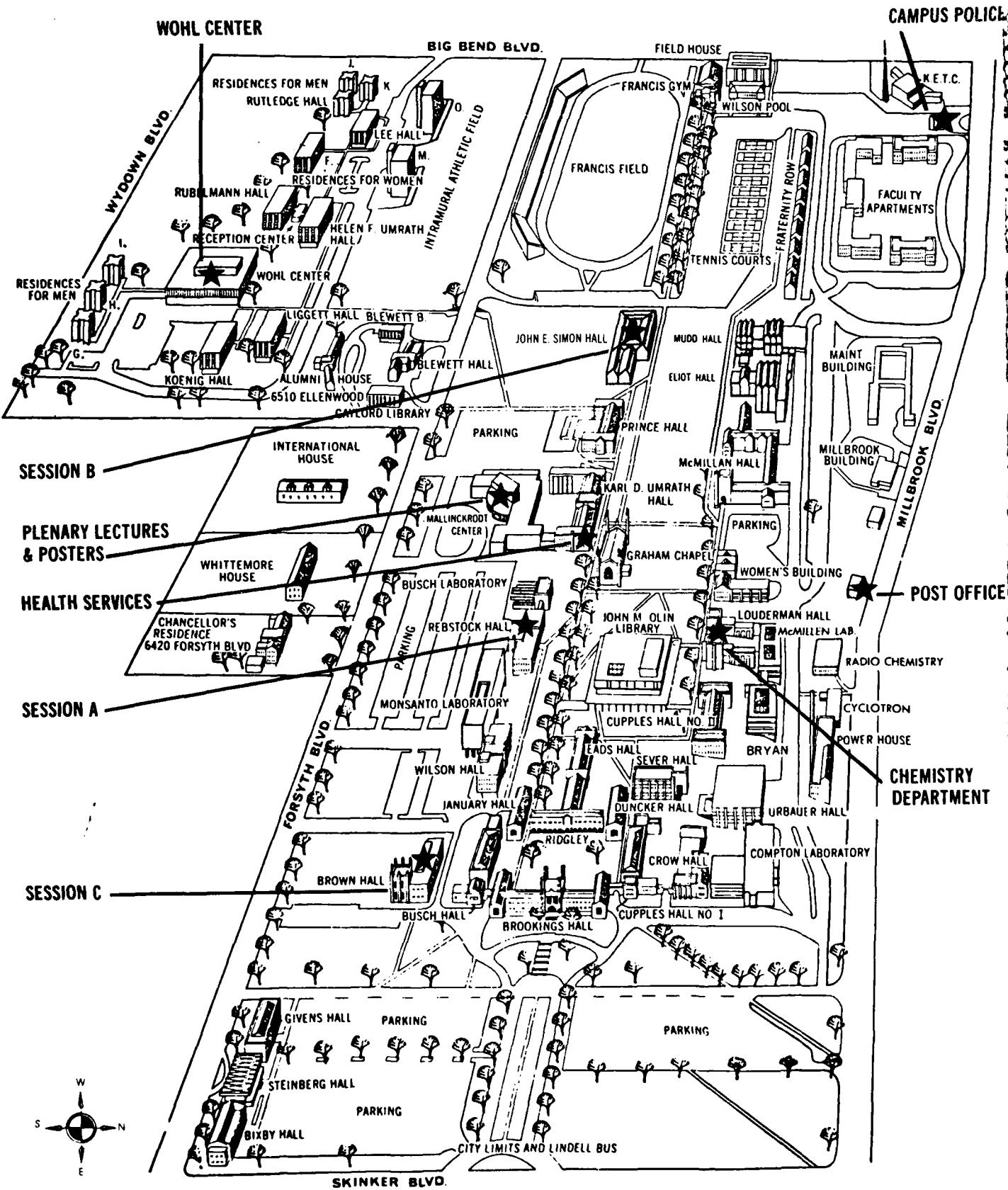
3:45 Closing Remarks
4:00 Farewell Party

Condensed Technical Program

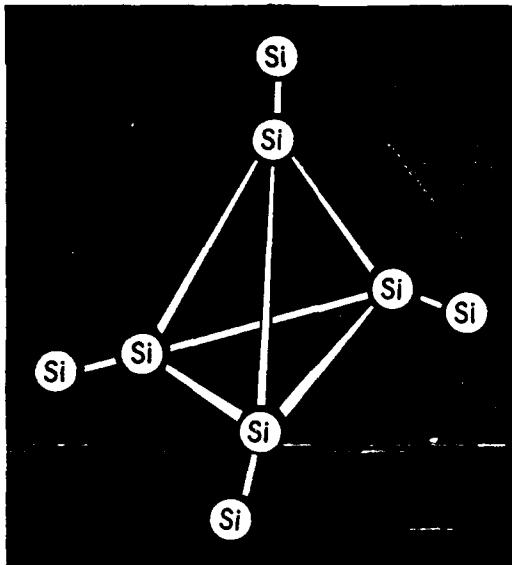
Locations of Technical Sessions

		Morning	Afternoon
Monday	Session PL: PL1-PL3	Session A: A1-A7 Session B: B1-B7 Session C: C1-C3, C5-C7	
Tuesday and Wednesday	Session PAB: Poster Papers PAB1-PAB45	Session PAB: Poster Papers PAB1-PAB45 and *C4	
Tuesday	Session A: A8-A13; 5-Minute Poster Summaries *PAB4,5, 7,3,9,16,18,20,43 and 44 Session B: B8-B15; 5-Minute Poster Summaries *PAB10, 12,14,15,30 and 29 Session C: C8-C15; 5-Minute Poster Summaries *PAB34, 35 and 39	Session A: A14-A18 Session B: B16-B22 Session C: C16-C21	
Wednesday	Session A: A19-A26 Session B: B23-B29 Session C: C22-C29		
Thursday and Friday	Session PCD: Poster Papers PCD1-PCD66	Session PCD: Poster Papers PCD1-PCD66	
Thursday	Session A: A27-A34; 5-Minute Poster Summaries *PCD5,7, 12,14 and 16 Session B: B30-B38; 5-Minute Poster Summaries *PCD23, 24,25 and 46 Session C: C30-C36; 5-Minute Poster Summaries *PCD47, 48 and 58	Session A: A35-A41 Session B: B39-B43; 5 Minute Poster Summaries *PCD27, 28,34,35,36,38,41,43 and 20 Session C: C37-C42; 5-Minute Poster Summaries *PCD63, 64 and 54	
Friday	Session A: A42-A49 Session B: B44-B51 Session C: C43-C50	Session A: A50-A51 Session B: B52-B53 - Session E: Closing Remarks	

Campus Map



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EIGHTH INTERNATIONAL SYMPOSIUM ON ORGANOSILICON CHEMISTRY

June 7-12, 1987
St. Louis, Missouri USA

LIST OF PARTICIPANTS

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The Organizing Committee of the Eighth International Symposium on Organosilicon Chemistry wishes to gratefully acknowledge the financial support received by the Symposium from the following organizations. Without this assistance and encouragement the Symposium would not have been possible.

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The Eighth International Symposium on Organosilicon Chemistry is being held under the sponsorship of the International Union of Pure and Applied Chemistry.

The Organizing Committee wishes to pay special tribute to our conference co-ordinator, Mrs. Jerri Skeeters and to our artist, Debra Larson. The idea for the conference poster came from Dr. Sandor Barcza.

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